Macro Vision

September 24, 2025

NAIRU slightly lower; inflation still resilient

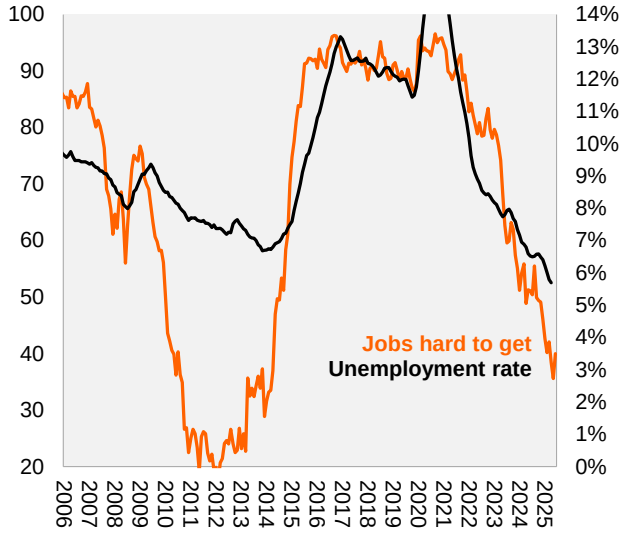
- The labor market remains tight: the unemployment rate has reached a historical low (5.7%); alternative indicators point to further labor market tightening and suggest unemployment will remain at low levels; in the formal segment, greater dynamism is evident, with elevated voluntary quits and formal hirings running above their historical average.
- Labor market performance is consistent with economic activity: after the decoupling observed during the pandemic and its aftermath, recent data indicate a convergence toward Okun's Law (the inverse relationship between unemployment and economic growth), with employment gains broadly in line with GDP growth in the previous quarter.
- In the most recent data, wages have grown slightly below what the unemployment rate would suggest, while the Unit Labor Cost (ULC) remains more aligned with labor market slack. In this context, the data points to a decline in the NAIRU (non-accelerating inflation rate of unemployment) following 2017 labor reform, although uncertainty around its exact level remains high.
- Based on the behavior of different inflation metrics, we estimate the NAIRU to be close to 8%, with no further decline at the margin. Current unemployment levels therefore indicate a tight labor market which, in the context of unanchored expectations, suggests inflation is likely to remain above the 3% target unless there is a significant currency appreciation.

The labor market continues to show widespread signs of tightening. The unemployment rate estimated by IBGE fell to 5.7% (seasonally adjusted) in the three-month moving average through July, the lowest level in the historical series. This movement has been driven mainly by the strong increase in formal employment, while informal employment has remained virtually stable and the participation rate has shown some recovery, albeit still below pre-pandemic levels.

Alternative measures corroborate this picture of labor market overheating and tightness, similar to what was observed between 2010 and 2013. The labor market perception, captured by FGV's consumer confidence, indicates a significant drop in the number of people reporting difficulty finding a job relative to those perceiving greater ease (Chart 1). This pattern suggests that the unemployment rate should remain at historically low levels in the coming months.

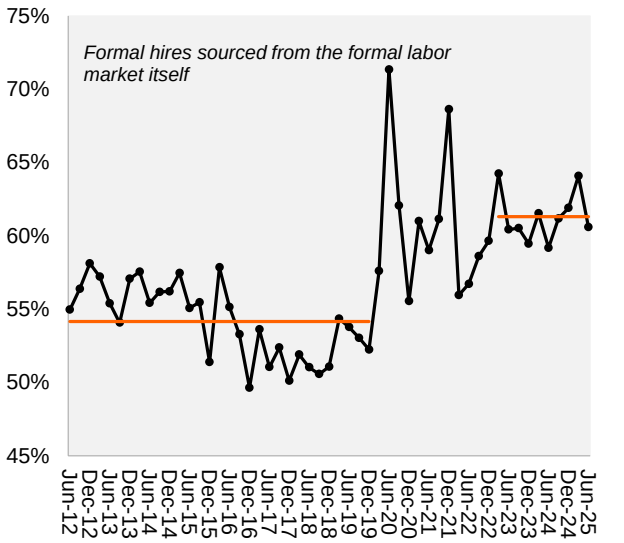
The reduction in the contingent of informal and unemployed workers has generated greater dynamism within the formal labor market itself. This has had a relevant impact on wage dynamics, since remuneration in this segment is higher. In line with CAGED data, which point to high levels of voluntary quits in recent months, the share of hires resulting from transitions within formal employment has stabilized above its historical average (around 60%, versus approximately 55% as shown in Chart 2).

Chart 1: Labor market perceptions remain strong



Source: IBGE, FGV, Itaú

Chart 2: Higher dynamism in the formal job market



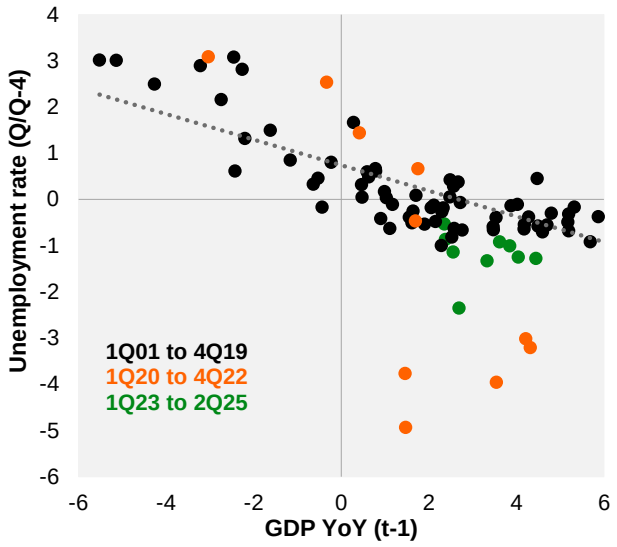
Source: IBGE, Itaú

Have labor market data decoupled from activity data?

The latest labor market data are consistent with what the trajectory of economic activity suggests. The inverse relationship between the unemployment rate and growth, synthesized by Okun's Law, does not indicate, in recent months, any relevant deviations between unemployment dynamics and the year-over-year change in GDP with a one-quarter lag.

During the pandemic and subsequent months, however, a significant decoupling was observed. Throughout 2022, the unemployment rate declined more sharply than indicated by the activity dynamics. At the time, in our Macro Vision report, we highlighted[1] that this divergence could reflect two factors: (i) sectoral composition effects in the post-pandemic labor market; and (ii) the impacts of the Labor Reform on the NAIRU – we believe that the unemployment equilibrium point shifted lower due to reduced labor market friction following the changes in legislation. We estimate that the NAIRU shifted from around 10% pre-reform to around 8%.

Chart 3: Okun's Law with larger deviation during the pandemic period and subsequent months

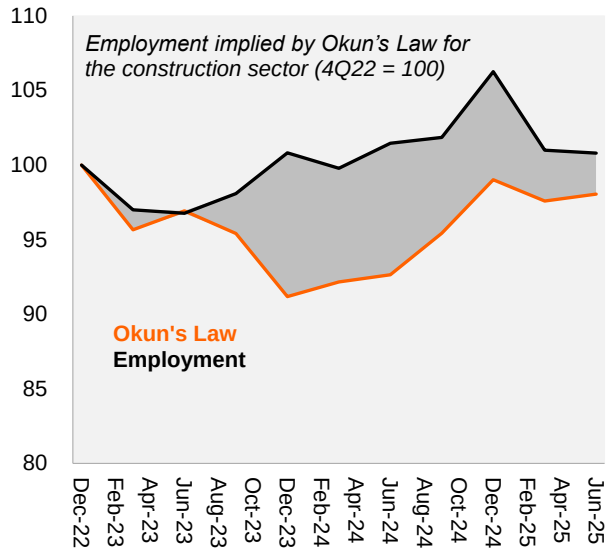


Source: IBGE, Itaú

[1] Macro Vision: Strong recovery in the labor market is unlikely to continue

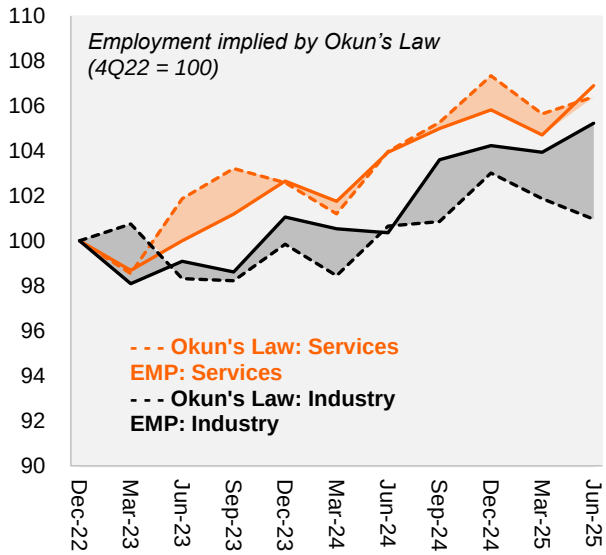
Since 2Q23, the unemployment rate has once again moved more consistently with annual GDP growth, in line with Okun's Law. Nevertheless, Chart 3 shows that recent data remains below the estimated trend line, suggesting a slightly tighter labor market than implied by the pace of activity. In the sectoral breakdown, the deviation from Okun's Law is concentrated in industry and construction, while in services, job creation remains more aligned with the sector's performance.

Chart 4: Construction Sector Remains Buoyant



Source: IBGE, Itaú

Chart 5: Industrial PO stronger than Okun's Law suggests



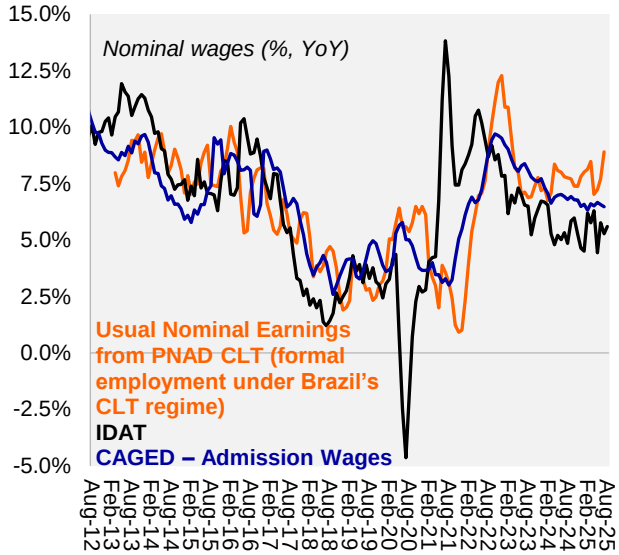
Source: IBGE, Itaú

Have wages responded to this tighter labor market?

Nominal wages have been growing between 5% and 8.6% YoY in recent months, depending on the metric. In August, our proprietary labor market indicator (IDAT-wages) pointed to a 5.6% YoY increase in wages for formal private sector workers. In July, the CAGED hiring wage rose 6.5% YoY. Meanwhile, the usual earnings from the PNAD survey, considering only private sector formal workers with formal contracts, increased 8.6% YoY in July.

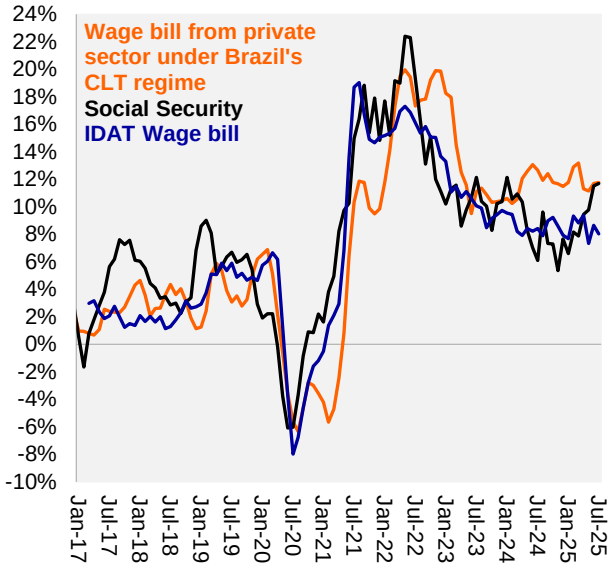
At the margin, social security revenue has exhibited greater consistency with the upward trend in PNAD survey data. In 2023 and 2024, social security revenue seemed to track the IDAT wage bill more closely, however, in recent months, there has been a convergence between the revenue reported by the federal government and the growth in private sector wage bill measured by the PNAD survey. This suggests that, at the margin, the higher levels of wage growth in the PNAD may be more adherent to reality.

Chart 6: Wage growth above 5% (YoY nominal 3MMA)



Source: IBGE, Ministry of Labor, Itaú

Chart 7: Social Security Revenue vs Labor Market (YoY nominal 3MMA)



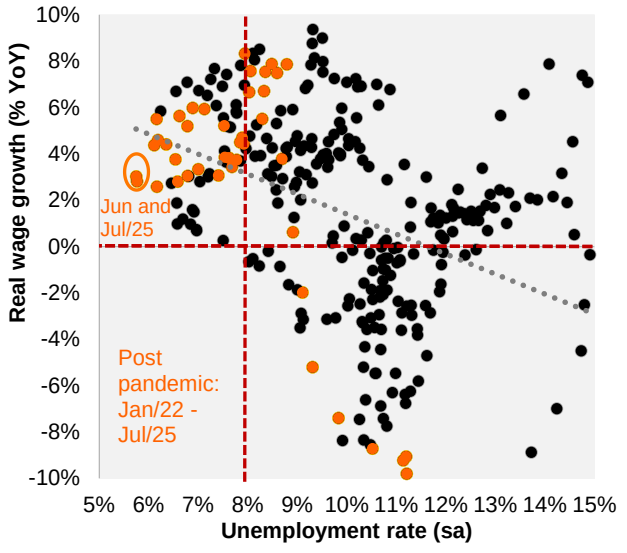
Source: IBGE, National Treasury and Itaú

Even so, wage growth at the margin has been somewhat more moderate than the unemployment rate would suggest— a sign that the NAIRU may have declined more sharply than initially estimated. Chart 8 shows real wage growth has been between 3% and 4% in recent months, while the unemployment rate would suggest real wage growth closer to 5% (Chart 8).

More relevant, however, is the behavior of the Unit Labor Cost (ULC): by construction, the ULC increases when wages rise faster than productivity and falls when efficiency gains offset wage inflation.

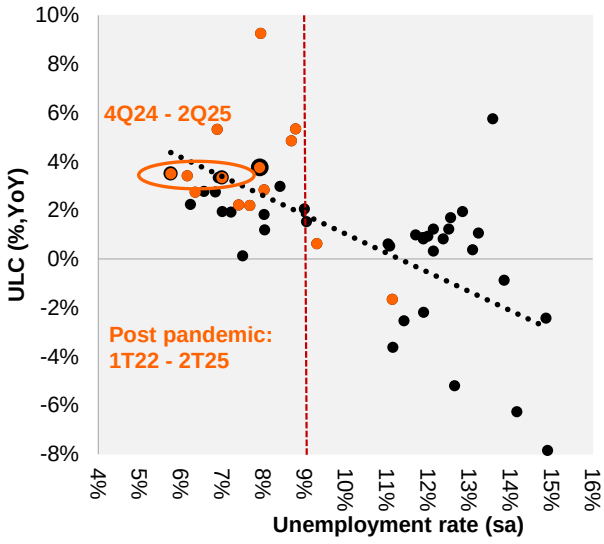
The recent relationship between the ULC and the unemployment rate shows less divergence, with the ULC variation more aligned with the level of unemployment. Chart 9 suggests that, historically, the NAIRU fluctuated around 11%, but more recently (orange dots) it appears to have declined to levels below 9%.

Chart 8: Relationship between wages and unemployment (since 2000)



Source: IBGE, Itaú

Chart 9: Capacity Utilization and Unemployment (since 2000)

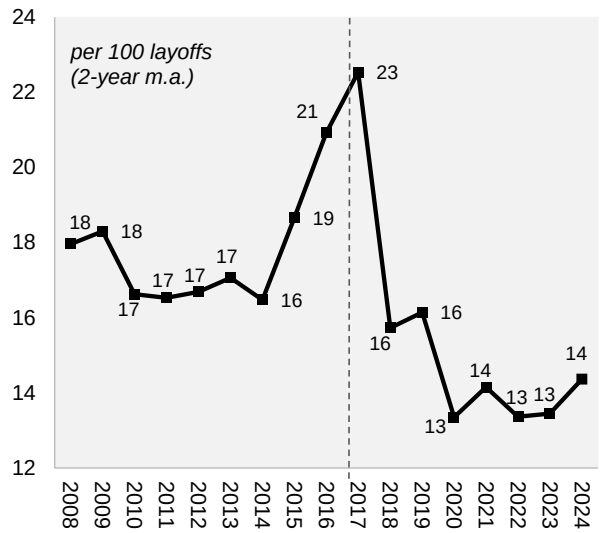


Source: IBGE, Itaú

Labor reform had an impact, but recent labor market dynamics are not exclusive to Brazil

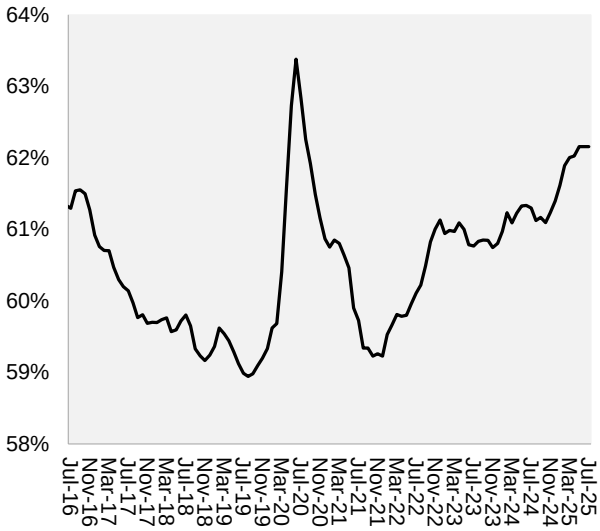
The Labor Reform, in effect since November 2017, likely contributed to the reduction of the NAIRU in Brazil[2]. By lowering costs and uncertainties (through reduced litigation) and increasing contractual flexibility, the reform enhanced labor market efficiency and encouraged formalization (Chart 11), allowing for a structurally lower unemployment rate while maintaining price stability. Furthermore, controlling lawsuits by the number of dismissals and voluntary quits (which, as noted above, reflect labor market tightness), we find no evidence of deeper reform impacts or setbacks, despite the recent increase in litigation (Chart 10).

Chart 10: Decline in adjusted labor lawsuits by the number of dismissals[3]



Source: IBGE, Itaú

Chart 11: Rise in formalization



Source: IBGE, Itaú

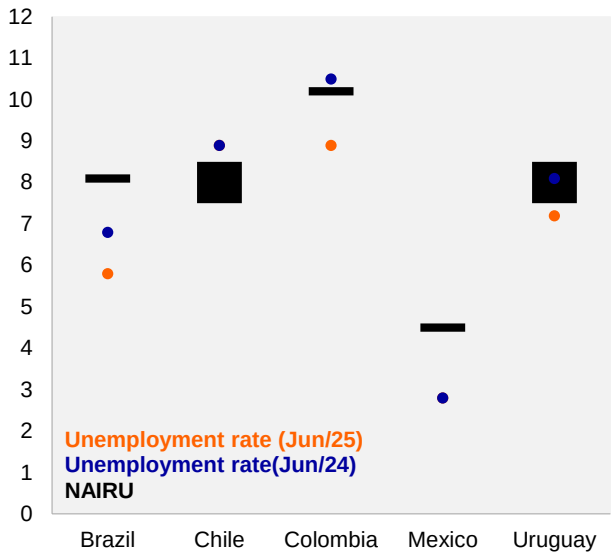
However, labor market tightness and the debate around NAIRU are not a phenomenon exclusive to Brazil. In Latin America, unemployment rates have been declining in recent months and moving further away from their NAIRU estimates. Except for Chile, all countries in the region are operating with unemployment below their NAIRU (Chart 12).

From an international perspective—across both advanced and emerging economies—wage behavior in Brazil appears slightly stronger than implied by the employment gap, under the assumption of a NAIRU at 8%.

[2] In our 2017 Macro Vision report, we discussed the characteristics that make the Brazilian labor market inefficient and how the Labor Reform could help increase productivity, as well as labor demand and supply: https://macroattachment.cloud.itau.com.br/attachments/5f8da883-e478-491b-ac81-34f2f545be14/20170804_MACRO_VISION_LABOR%20REFORM.pdf

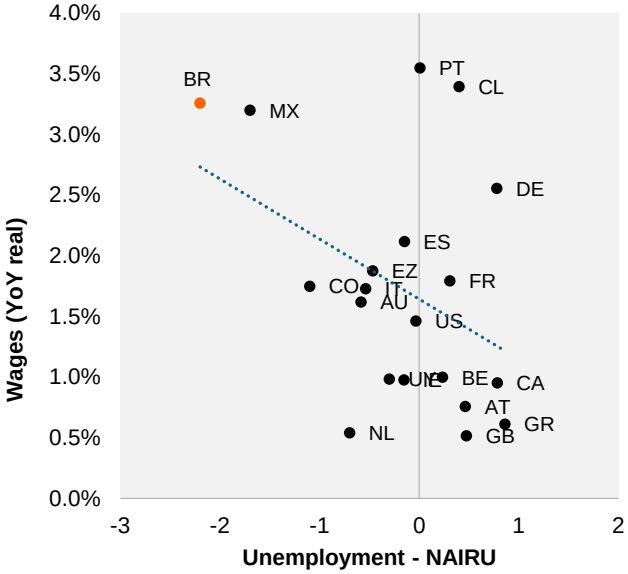
[3] We consider dismissals net of voluntary quits.

Chart 12: Tight labor market in the region



Source: Harver Analytics, Itau

Chart 13: Employment gap vs real wages



Source: Harver Analytics and Itau

It's crucial to keep in mind the "I" (inflation) in NAIRU

Since 2022, the unemployment rate has declined more sharply than expected, recently reaching record lows. We expect this trend to persist, keeping unemployment at historically low levels for an extended period and likely adding upward pressure on inflation. In this context, discussions around the current level of the NAIRU have gained relevance. Below, we present some estimates:

Table 1: NAIRU estimates declined after the labor reform

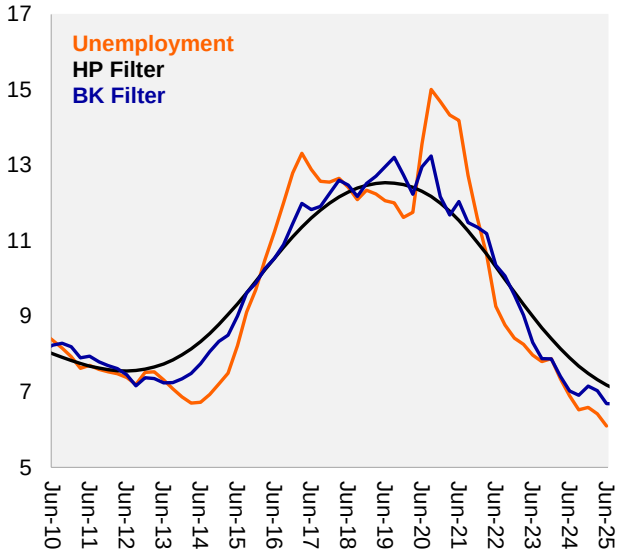
Nairu	Pre-reform*	Post-reform**
HP Filter	8.9	8.7
BK Filter	8.8	8.3
Itaú model	10.6	7.9
Expanded CB methodology	10.2	8.3

**4Q09 to 4Q17*

***1Q22 to 2Q25*

Standard statistical filters, Hodrick-Prescott (HP) and Baxter-King (BK), suggest that the average NAIRU changed between the pre- and post-reform periods, remaining broadly in the 8–9% range (Table 1). Recently, these filters pointed to a NAIRU closer to 7%. It is worth noting, however, that such techniques do not capture the relationship between labor-market and inflation and, by construction, operate essentially as smoothing mechanisms for the unemployment rate.

Chart 14: Filters work, by construction, only as a smoothing of the unemployment rate



Source: IBGE, Itaú

We consider a more informative approach: inferring the NAIRU from Phillips-curve relationships between economic activity and price dynamics across services inflation metrics, given the sector's higher labor intensity and its greater sensitivity to labor-market tightness. For underlying services, job intensive services, slack-sensitive services, underlying services reweighted, IPCA reweighted, and services reweighted, we conducted a two-stage[4] exercise:

Stage 1: Assuming the NAIRU lies within 6–9%, we estimate, for each inflation metric and each NAIRU level (6%, 7%, 8% and 9%), the coefficients $\beta_1, \beta_2, \beta_3$ *e* β_4 in the following equation:

$$\pi_t^i = \alpha + \beta_1 IPCA_{t-4} + (1-\beta_1)Expect3Y + \beta_2(PNAD - NAIRU) + \beta_3 SMT_{t-1} + \beta_4 CRB_{RIND_{t-1}}$$

where π_t^i represents the 12-month inflation for the services metric i, α is a constant calibrated as the average gap between $\pi^i$and the IPCA[5] , the IPCA is the headline to the 12-month inflation, $Expect3Y$ is the 3-year-ahead inflation expectations; PNAD is the unemployment rate, SMT represents the year-over-year change in agricultural commodity prices and CRB corresponds to the year-over-year change in metal commodity prices.

Stage 2: We average the estimated coefficients across NAIRU levels and, using a rolling window, compute the implicit NAIRU (-η/$\overline{\beta_2}$) for each inflation metric. The resulting relationship can be expressed as:

$$\pi_t^i = \alpha + \bar{\beta}_1 IPCA_{t-4} + \left(1-\bar{\beta}_1\right)Expect3Y + \bar{\beta}_2(PNAD) + \eta + \bar{\beta}_3 SMT_{t-1} + \bar{\beta}_4 CRB_{RIND_{t-1}}$$

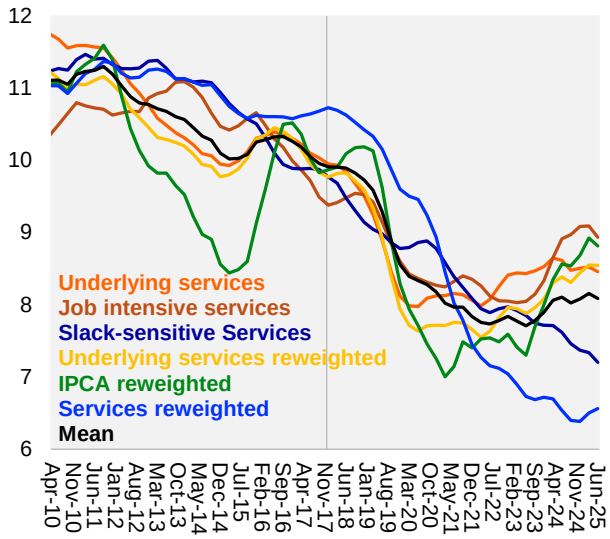
The results indicate that the average NAIRU declined from 10% in the pre-reform period to about 8% post-labor reform (Chart 15). This procedure allows us to extract a consistent measure of the non-accelerating inflation rate of unemployment from the dynamics of the services sector, regarding the initial hypothesis about the level of the NAIRU. The result proves robust, as the estimated rate varies over time and its pre- and post-reform averages do not simply correspond to the midpoint of the reform range considered initially.

[4] See https://www.itau.com.br/media/dam/m/df946ab69ad2061/original/20231010_MACRO_VISION_Labor_Market.pdf

[5] We calibrate α as the average gap between services inflation and headline inflation over 2006–2024, excluding the pandemic period.

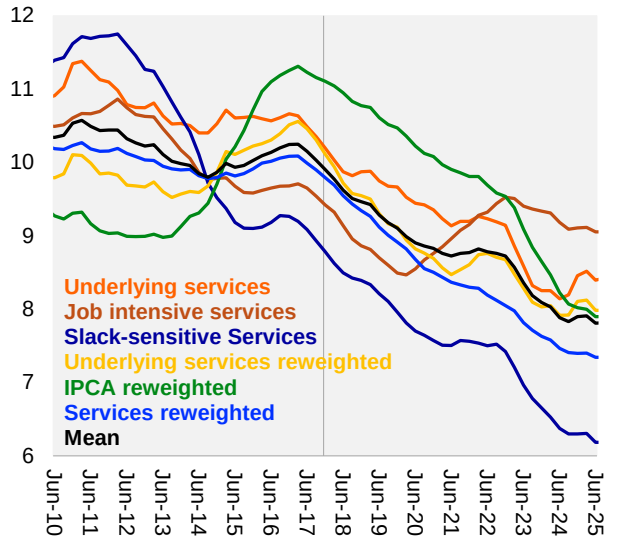
To enhance robustness, we replicated a recent exercise by Central Bank[6] economists that estimates the NAIRU through a Phillips curve framework, expanding it to incorporate the same services inflation metrics used above. The results closely align with our baseline, indicating a decline in the NAIRU from roughly 10% to around 8% after the labor reform (Chart 16), with relative stability at the margin. Importantly, the current unemployment rate, below 6%, is materially lower than these NAIRU estimates, reinforcing the picture of a tight labor market.

Chart 15: Implied NAIRU fell to around 8% after labor reform



Source: IBGE, Itaú

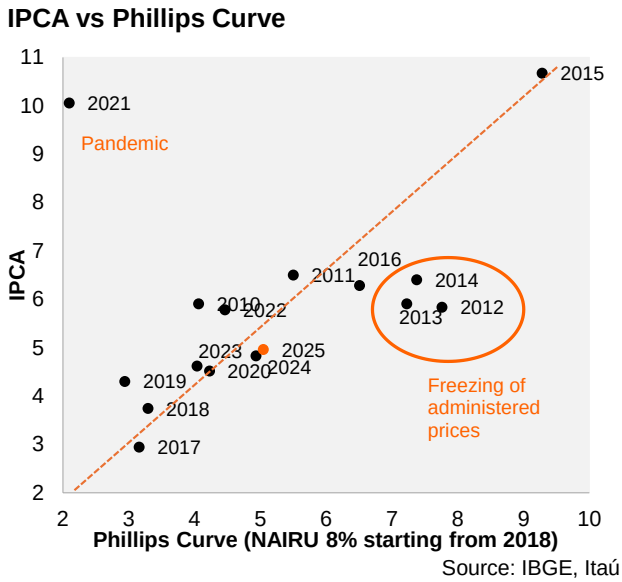
Chart 16: Result close to that found using the Central Bank's methodology



Source: IBGE, Itaú

The current estimated NAIRU, together with the outlook for a still-tight labor market, reinforces our assessment that inflation is likely to remain above target in 2026. We estimate a Phillips Curve that incorporates inflation inertia, long-term expectations, labor-market slack, and exchange rate dynamics. Historically, this model has captured next-year inflation dynamics well (Chart 17) and currently points to 4.4% in 2026. To deliver inflation below this scenario, either an additional currency appreciation or a more pronounced easing in labor-market conditions would be required (Table 2).

Chart 17: Historically, the model explains next year's inflation well



Source: IBGE, Itaú

Table 2: A stronger currency or a more significant labor market slowdown are downside risks to the 2026 projection

IPCA 2026	Unemployment rate		
Average BRL 26	5.5	6.0	6.5
5.00	4.2	4.0	3.8
5.20	4.5	4.3	4.1
5.40	4.7	4.6	4.4
5.60	5.0	4.9	4.7
5.80	5.3	5.1	5.0

Average BRL 25: 5.6

Source: Itaú

[6] O nível recente da inflação de serviços deveria causar surpresa?

Conclusion

Recent data indicate that the labor market remains tight, particularly in the formal segment. After a period of divergence, the unemployment rate has re-aligned with the pace of economic activity. In the wage-unemployment relationship, wage growth at the margin has been somewhat more moderate than implied by the unemployment rate. However, the Unit Labor Cost (ULC) dynamics show less divergence, with the ULC movements more consistent with the degree of labor-market slack. In this context, the evidence suggests a decline in the NAIRU following the 2017 labor reform. Across multiple inflation metrics, we estimate the NAIRU to be around 8%, consistent with a tight labor market and persistent inflationary pressures, reinforcing our assessment that inflation is likely to remain above target in 2026.

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