Lost in Transition:

Brazil's Economic Opportunity
from Closing Gaps in Learning Paths

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The transition points

To estimate the potential earnings losses from gaps in learning paths in Brazil, we focused on three of the major transition points in an individual's work cycle:
1. The move from education to work; 2. unemployment due to redundancy; and 3. displacement caused by new technologies.

Having identified these three key transition points, we estimated the number of affected workers, the average duration of job search, and the average wages for each group. Based on these data points, we estimated the earnings loss at each transition point. For Brazil, we drew on publicly available national and state datasets, including those produced by the IBGE Brazilian Institute of Geography and Statistics) and the Brazil Ministry of Education observatories such as Coordination for the Improvement of Higher Education Personnel (CAPES) and National Institute of Educational Studies and Research Anísio Teixeira (INEP).

1. The transition from school to work.
Students in Brazil can undergo the transition from school to work at various stages: when graduating from high school and directly entering the workforce, or later on in life when graduating from university or other third-level institutions. In addition, some students leave before completing high school.

2. The transition from one job to another.
We focused on involuntary job separations such as redundancies, where individuals are least likely to be prepared for their next role, as they are not usually the ones that have instigated the change.

3. The potential reskilling required due to automation disruption.
This measure looks at the potential future reskilling cost as individuals need to find another role because a significant portion of their tasks has been automated. We use an OECD methodology to identify the roles that will see the greatest impact from automation-related technology in the future, and Faethm data for the wages of occupations affected by automation. By impact, we mean jobs where a large proportion of tasks could potentially be completed by some form of technology. Unlike the first two transitions, which reflect current patterns of transition in Brazil's labor market, automation-driven transitions represent future risks, i.e. potential job changes and skill shifts likely to unfold over several years as automation technologies mature.

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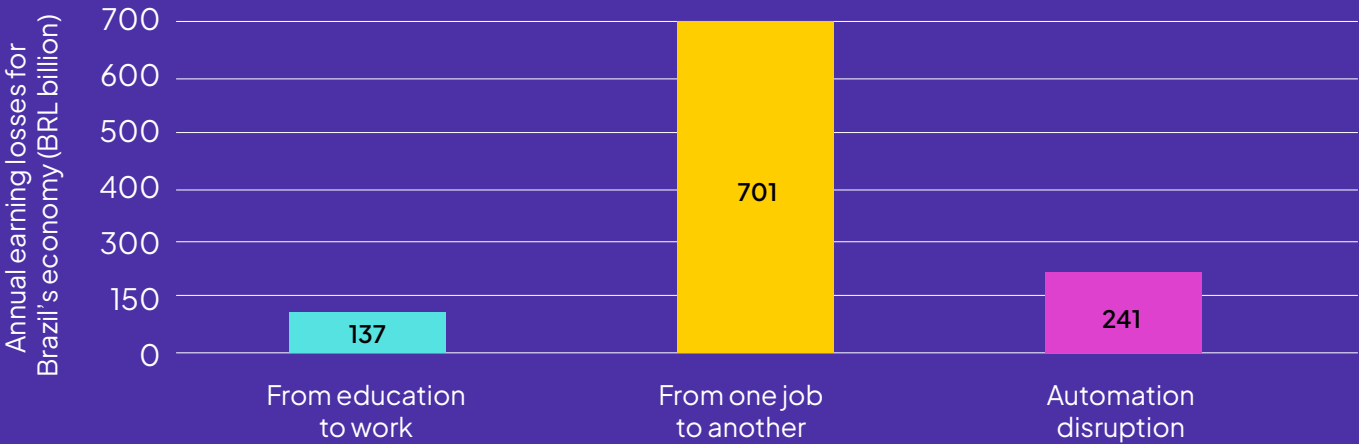## Brazil's Economic Opportunity from Closing Gaps in Learning Paths

Findings

Based on this approach, we estimate potential annual transition losses of circa BRL 1.08 trillion for Brazil's economy, representing about 9% of Brazil's annual GDP in 2024 (*See Figure 1 for a breakdown of the transition losses by transition point.*)

> Potential annual transition losses of circa
> **BRL 1.08 trillion for Brazil's economy**

[1] This is particularly concerning because research indicates that the longer an individual is out of work, the harder it is for them to find a new job, as their skills erode and the marketplace evolves.

Our analysis can illustrate the potential boost to earnings from measures that improve learning paths for students and workers in Brazil. For instance, reducing the reskilling time for workers affected by involuntary redundancies by 20%, from an average of 42 weeks to 34 weeks, would yield additional employee earnings of BRL 140 billion.

Figure 1: Breakdown of potential transition–path earnings losses for Brazil's economy, by transition point

Bar chart — Annual earning losses for Brazil's economy (BRL billion):
- From education to work: 137
- From one job to another: 701
- Automation disruption: 241

Most of these losses occur when people move from one job to another, estimated at BRL 701 billion in lost earnings. This is due to Brazil's high average duration of unemployment, driven by the high share of long-term unemployed.

> These are individuals looking for a job for more than 2 years, which is **20.1% of the unemployed population, and equivalent to 1.4 million people.**

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Automation disruption was the second most important area of transition losses. Automation technologies—such as robotic process automation, large-language-model chatbots, agentic AI models and autonomous mobile robotics—require individuals to reskill for changed or completely new tasks. Brazil's share of employment at high risk of automation is 32%, considerably higher than other countries we have performed this analysis for. This is mainly driven by its relatively high share of employment in manufacturing (12%) and also agriculture (7%).

Though the "education to work" transition is the lowest of the three, it is nonetheless quite significant. This reflects the very lengthy time it takes individuals of all groups (whether they are high school graduates or Bachelor's graduates) to find a job once they complete their education. This may be a sign of labor market inefficiencies and a potential mismatch between education outcomes and employer demand.

Further considerations

In addition to the three transition points captured in our analysis, **several other factors represent hidden or unquantified transition-related losses:**

Under-employment and skills mismatches: Some workers would like to work full-time but can't find a full-time role. Brazil has 4.7 million people registered as its "time-related underemployed population", i.e. individuals who would like to work more hours than they currently do work.[2] Others may suffer from a "skills discount", that is, they can't find a job that fully matches their skills and thus earn less.

Young people not in work or education: Brazil has a significant number of 18-24-year-olds who are commonly referred to as "NEETs"—not in education, training or employment. In 2023 these represented roughly one quarter (24%) of the country's 18-24 age group.[3]

Low adult educational attainment: There is also a significant group of adults who would benefit from adult education programs to boost their earnings potential. Among 25-34-year-olds in Brazil, 27% do not have upper-secondary educational attainment. Although this rate has improved in the last decade, it remains 13 percentage points above the OECD average.[4]

Discouraged workers: Brazil's high long-term unemployment rate creates a risk that those affected "drop out" of the labor market altogether and become "discouraged workers". The percentage of discouraged workers in Brazil is **2.7%, equivalent to 3.1 million people.**[5] Though they are outside the scope of our transition-loss estimate, this group represents a significant source of potential losses.

Finally, our calculation is based on an individual's earnings. This is useful as it reflects the impact on people—we believe this is important because of the role that skills and employment play in an individual's wellbeing. However, it is worth noting that at the macroeconomic level, the loss—or potential opportunity—from interventions, is even higher.

References

[1] Agencia Noticias IBGE, "In 2024, 14 Federation Units register the lowest unemployment rate in the time series", Feb 14, 2025, accessed here: https://agenciadenoticias.ibge.gov.br/en/agencia-news/2184-news-agency/news/42715-in-2024-14-federation-units-register-the-lowest-unempzloyment-rate-in-the-time-series#:~:text=The%20average%20annual%20underutilization%20rate%20in%20Brazil,(5.5%)%2C%20Rond%C3%B4nia%20(7.0%)%20and%20Mato%20Grosso%20(7.7%)

[2] Agencia Noticias IBGE, "Continuous PNAD: unemployment rate is 6.6%; underutilization rate is 15.4% in quarter ending in April", May 29, 2025, accessed here: https://agenciadenoticias.ibge.gov.br/en/agencia-press-room/2185-news-agency/releases-en/43506-continuous-pnad-unemployment-rate-is-6-6-underutilization-rate-is-15-4-in-quarter-ending-in-april

[3] OECD, "Education at a Glance 2024, Country note: Brazil", 2024, accessed here: https://www.oecd.org/en/publications/education-at-a-glance-2024-country-notes_fab77ef0-en/brazil_eea51596-en.html

[4] OECD, "Education at a Glance 2024, Country note: Brazil", 2024, accessed here: https://www.oecd.org/en/publications/education-at-a-glance-2024-country-notes_fab77ef0-en/brazil_eea51596-en.html

[5] Agencia Noticias IBGE, "Continuous PNAD: unemployment rate is 6.6%; underutilization rate is 15.4% in quarter ending in April", May 29, 2025, accessed here: https://agenciadenoticias.ibge.gov.br/en/agencia-press-room/2185-news-agency/releases-en/43506-continuous-pnad-unemployment-rate-is-6-6-underutilization-rate-is-15-4-in-quarter-ending-in-april