

GDP-per-worker decomposition: United States vs. Brazil

Comparison year: 2023 • FRED country code: BRA • generated 7/30/2026, 12:17:24 PM

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Part I — United States, 2023

Y	K	N	h	K/N	$(K/N)^{0.3}$	$h^{0.7}$	Y/N	A
24,977,152	80,822,920	167.54	1,788.88	482,410.413	50.702	189.15	149,081.95	15.545

Part II — Brazil, 2023

Y	K	N	h	K/N	$(K/N)^{0.3}$	$h^{0.7}$	Y/N	A
3,904,424	17,073,944	99.298	1,993.72	171,947.284	37.206	204.063	39,320.45	5.179

Part III — Brazil counterfactual (U.S. technology)

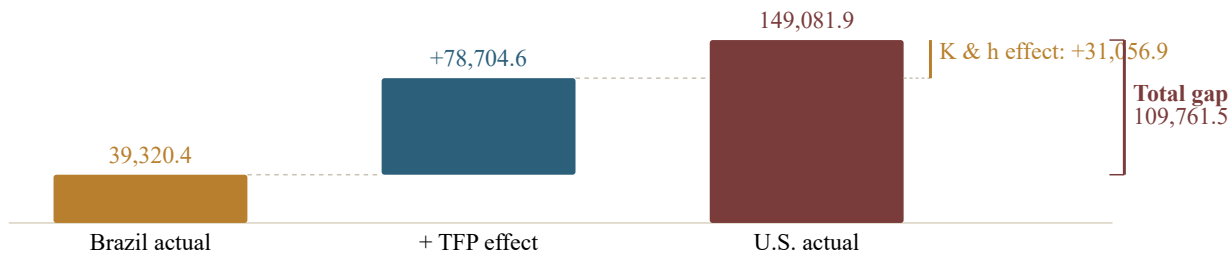
A (US)	K	N	h	K/N	$(K/N)^{0.3}$	$h^{0.7}$	$(Y/N)^{\wedge}$
15.545	17073944	99.29755	1993.72	171,947.284	37.206	204.063	118,025.06

Part IV — Decomposition

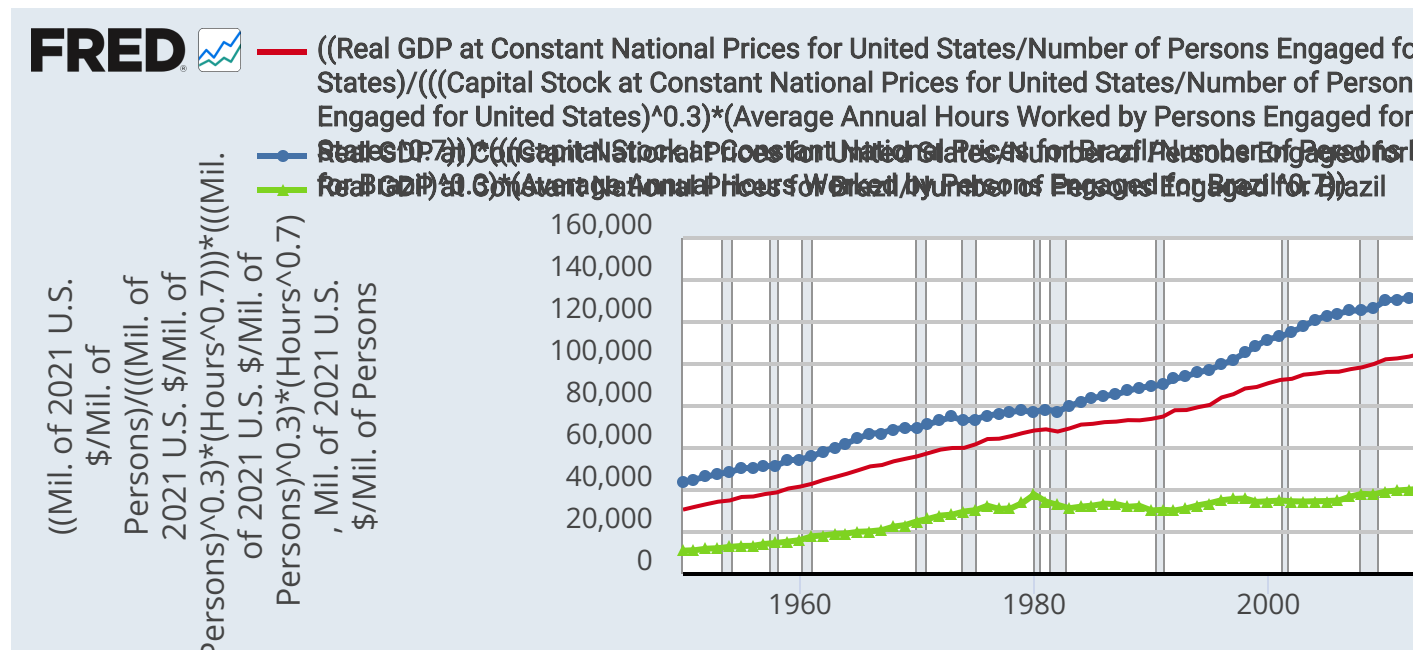
Total gap 109,761.5	Explained by TFP 78,704.62	Explained by capital & hours 31,056.88
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Chart

GDP per worker — United States vs. Brazil (2023)



FRED Graph (as embedded by student)



Sources: University of California, Davis; University of Groningen via FRED®

Shaded areas indicate U.S. recessions.

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Part V — Reflection Questions

1. TFP is the "residual" — whatever capital and hours don't explain. What real-world factors (institutions, technology adoption, worker skill, misallocation) might be hiding in your TFP gap — and how would explicitly measuring education/skill change your estimate?

(no answer written)

2. Does a lower estimated A mean workers in Brazil are less capable or less hardworking? Why or why not — what is this model actually measuring?

(no answer written)

3. This exercise assumes the same capital share ($\alpha = 0.3$) for both countries. Is that realistic? How might your decomposition change if the comparison country's true capital share were different?

(no answer written)