



The Dynamic Nature of Employment and Income in the Legal Amazon: The Public Sector

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This is the second in a series of four notes that report the results of the study *The Dynamic Nature of Employment and Income in the Legal Amazon* carried out under the Amazon 2030 project (AMZ 2030). The study includes a detailed discussion of the economic vitality of the Legal Amazon based on the identification of occupations and sectors that have recently (2012-2019) contributed most to employment and income generation in the region. The work uses data from the Continuous National Household Sample Survey (*Pesquisa Nacional por Amostra de Domicílios Contínua – PNAD-Contínua*) conducted by the Brazilian Institute of Geography and Statistics (*Instituto Brasileiro de Geografia e Estatística – IBGE*) and expands on the research on the dynamics of the Job Market in the Legal Amazon, which began the series of AMZ 2030 publications. In this note, we present the results of the study as they pertain to occupations associated with the public sector in the Amazon region. This choice of perspective is meant to portray the importance of the public sector as a source of economic dynamism for the Legal Amazon, considering that activities related to the private sector have failed to generate jobs at the regional level.¹

The study on the evolution of public sector employment in the Legal Amazon is quite revealing. We highlight three key results. First: the number of people employed in the main occupations related to the public sector grew 21.6% between 2012 and 2019, which is four times the total increase in employment for the region, with wage gains also much higher than in the rest of the economy. Second: health, education and security professions experienced the greatest employment growths in the region. Third: there is significant variation in the results across states, especially vis-à-vis the pattern of public servants' salaries. These results indicate an increasing presence of the public sector in the Legal Amazon, with potentially relevant effects on the State's ability to sustain such employment dynamics. The feasibility of financing such

¹ See: Gonzaga, Gustavo, Francisco Cavalcanti, and Flávia Alfenas. Dinamismo de Emprego e Renda na Amazônia Legal: Agropecuária. *Amazônia 2030*, 2021. bit.ly/3EE5l8y and Alfenas, Flávia, Francisco Cavalcanti, and Gustavo Gonzaga. Mercado de trabalho na Amazônia Legal: Uma análise comparativa com o resto do Brasil. *Amazônia 2030*, 2021. bit.ly/3l3ANpF.

dynamism in public employment in the region over the coming decades is definitely an issue worth addressing.

Table 1 illustrates employment growth rates in occupations associated with the public sector, with information disaggregated by topics such as income, number of employed individuals, and share of formal employment, among others, for the three groups of occupations with the strongest ties to the public sector in the region: health, teaching and safety.²

Relatively speaking, these three groups of occupations associated with the public sector grew much more than the total employment rate in the region over the same period. Between 2012 and 2019, the relative growth of employment in these occupations was 21.6% in the Legal Amazon, whereas the growth in total employment for the region over the same period was only 5.3%. As can be seen, these occupations were among the main sources of employment in the Legal Amazon, encompassing approximately 970 thousand individuals (9.1% of the total 10.6 million people employed in the region).

Table 1 also shows the differences in public-sector employment characteristics in the region for the workers in these three groups. The average income for these workers grew 12.3% from 2012 to 2019, with average earnings of R\$ 3,483 in the last year of that period – i.e., more than double the average income in the region (R\$ 1,692). The share of formal employment in health, education and security occupations, given their strong representation in public positions, is also much higher than for the Legal Amazon as a whole: only 27.5% work informally, around 32 percentage points below the region's high informal employment rate (59.4%).

² As shown in Table 1, 78.2% of people employed in these three categories in 2019 were in the public sector. "Health professionals" encompasses occupations such as physicians, paramedics, nurses, midwives, veterinarians, dentists, pharmacists, physiotherapists, nutritionists, optometrists, and other health, labor hygiene and environmental professionals. "Education professionals" encompasses occupations such as teachers in preschool, primary, secondary and tertiary education, as well as specialists in pedagogical methods and educators working with special needs, languages, music and arts. Security-related occupations comprise police officers, fire fighters and those in the armed forces.

Table 1. Breakdown of employment in occupations associated with the public sector, Legal Amazon, 2012-2019

	2012-2019 variation			2019			
	Total Emp.	Emp. (%)	Income (%)	Total Emp.	Income (R\$)	Formal (%)	Private (%)
Total	537,822	5.3	3.4	10,632,195	1,692	40.6	84.2
Total occupations associated with the public sector	172,287	21.6	12.3	970,212	3,483	72.5	21.8
Occupations associated with the public sector							
Health professionals	100,787	40.7	-2.6	348,642	3,327	72.9	31.5
Teaching professionals	39,679	8.3	14.3	519,988	3,206	67.7	19.6
Police officers, Fire fighters and Armed Forces	31,821	45.6	34.5	101,582	5,433	100,0	0.0

Source: Amazon 2030, based on data from IBGE's Quarterly PNAD-Contínua

Table 1 also shows that police, fire fighters and members of the Armed Forces comprise the category with the greatest growth rates in both employment and income: 45.6%, and 34.5%, respectively, between 2012 and 2019. They were also the category with the highest incomes, earning an average of R\$ 5,433 per month in 2019. These workers also showed the highest rates of formal employment, as they were all employed in the public sector. Health professionals had the second highest employment growth rate, a 40.7% increase between 2012 and 2019. The variation in income for this category, however, was negative for the same period – a 2.6% drop. In 2019, the average monthly incomes of health professionals (R\$ 3,327) and teaching professionals (R\$ 3,206) corresponded to about 60% of the incomes of police officers, fire fighters and members of the Armed Forces. The rate of formal employment for these two groups of occupations was also lower than for the security category. In all, 27.1% of health professionals were employed in the informal market. This percentage was even higher for teaching professionals: 32.3% of the nearly 520 thousand people employed in that category worked informally in 2019.

The study analyzed data on occupations associated with the public sector for all eight states that comprise the Legal Amazon. Table 2 shows the disaggregated results for each state.

When we unravel the economic dynamism of occupations by state, it appears that the same pattern found for the region as a whole also applies to each state individually. This means that police officers, fire fighters and members of the Armed Forces were the category that saw the highest growth rates in employment and income between 2012 and 2019 in all states of the Legal Amazon. The exceptions were the states of Amazonas – where employment growth for health and education professionals exceeded the employment growth for workers in the security category – and Pará, where the employment growth rate for health professionals surpassed that of police, fire fighters and members of the Armed Forces. In Rondônia, the high relative employment growth rate for the security category stands out at 250.8% between 2012 and 2019. Another pattern in the Amazon region that repeats in each of the states in the Legal Amazon is the higher average income rate of this category in comparison to health and teaching occupations.

Table 2. Breakdown of employment in occupations associated with the public sector by state, Legal Amazon, 2012-2019

	2012-2019 variation			2019			
	Total Emp.	Emp. (%)	Income (%)	Emp. Total	Income (R\$)	Formal (%)	Private (%)
Acre							
Health professionals	2,178	23.1	-17.3	11,604	3,528	81.3	24.6
Teaching professionals	1,949	11.5	-9.8	18,888	3,235	71.4	10.9
Police officers, Fire fighters and Armed Forces	996	33.6	38.7	3,965	5,921	100,0	0.0
Amazonas							
Health professionals	26,299	68.2	-22.5	64,883	3,610	63.4	36.1
Teaching professionals	18,777	31.7	-7.8	78,098	3,042	67.3	23.9
Police officers, Fire fighters and Armed Forces	1,959	8.3	20.3	25,437	5,463	100,0	0.0
Amapá							
Health professionals	3,987	48.3	0.5	12,234	3,211	74.0	22.9
Teaching professionals	-1,385	-6.6	1.0	19,727	4,490	85.2	16.2

Police officers, Fire fighters and Armed Forces	2,243	70.9	37.4	5,404	7,022	100,0	0.0
Mato Grosso							
Health professionals	13,148	34.2	-28.3	51,645	3,564	75.1	44.7
Teaching professionals	3,312	5.7	7.2	61,462	3,914	65.0	22.9
Police officers, Fire fighters and Armed Forces	3,263	53.0	72.7	9,415	7,446	100,0	0.0
Pará							
Health professionals	34,331	52.0	25.5	100,321	3,770	72.5	35.2
Teaching professionals	7,215	4.9	24.5	154,815	3,474	61.1	26.6
Police officers, Fire fighters and Armed Forces	8,543	37.8	46.3	31,169	5,543	100,0	0.0
Rondônia							
Health professionals	5,464	29.8	8.7	23,778	3,574	88.6	31.9
Teaching professionals	3,237	11.8	19.7	30,670	3,772	91.2	15.8
Police officers, Fire fighters and Armed Forces	7,739	250.8	22.6	10,825	4,381	100,0	0.0
Roraima							
Health professionals	2,027	32.4	25.4	8,290	5,339	74.2	24.8
Teaching professionals	274	2.3	19.0	12,106	4,883	79.8	14.4
Police officers, Fire fighters and Armed Forces	2,791	65.0	45.4	7,082	5,359	100,0	0.0
Tocantins							
Health professionals	7,603	38.5	-4.8	27,339	3,698	74.6	20.1
Teaching professionals	4,814	15.6	9.8	35,607	3,572	71.7	11.0
Police officers, Fire fighters and Armed Forces	1,308	55,4	13,9	3,670	8,041	100,0	0.0

Source: Amazon 2030, based on data from IBGE's Quarterly PNAD-Contínua

Authors

Gustavo Gonzaga

Pontifical Catholic University of Rio de Janeiro (PUC-Rio)

gonzaga@econ.puc-rio.br

Francisco Cavalcanti

Pontifical Catholic University of Rio de Janeiro (PUC-Rio)

Flávia Alfenas

Pontifical Catholic University of Rio de Janeiro (PUC-Rio)

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About Amazon 2030

The **Amazon 2030** project is an initiative by Brazilian researchers to design a sustainable development plan for the Brazilian Amazon. Our goal is for the region to achieve a higher level of economic and human development and reach sustainability in the use of natural resources by 2030.

Media Contact

O Mundo que Queremos

amazonia2030@omundoquequeremos.com.br

Contact

contato@amazonia2030.org.br

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