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Tax Administrations:
Collection, Costs
and Personnel
Evidence for the
CIAT Countries with data
of ISORA



Tax Administrations: Collection, Costs and Personnel Evidence for the CIAT Countries with data of ISORA

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**Tax Administrations:
Collection, Costs and
Personnel Evidence for the CIAT
Countries with data of ISORA**

Santiago Díaz de Sarralde Miguez
(CIAT)

Acknowledgement

The study **“Tax Administrations: Collection, Costs and Personnel Evidence for the CIAT Countries with data of ISORA”** has been prepared by Mr. Santiago Díaz de Sarralde Miguez, Director of Tax Studies and Research of CIAT (Inter-American Center of Tax Administrations).

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Executive Summary

ISORA (International survey on revenue administrations) has emerged from the joint effort of the IMF, IOTA, OECD and CIAT, as a unique and homogeneous survey addressed to the revenue administrations of 148 countries. The survey collects collection data, institutional structure, budget and human resources, segmentation and taxpayer registration, returns filing and payments, taxpayer assistance and tax education, enforced collection of debts, inspection, audit, and investigation of tax fraud and dispute resolution mechanisms.

In this working paper we offer a first approximation to the data compiled for CIAT member countries focusing on the results obtained -collection managed by each of the administrations and their available means, i.e. budgets and human resources- in 2015. Subsequent working papers will continue this work by addressing other areas of the survey.

The average results reflect a centrally managed collection of internal taxes of 13.3% of GDP with a current cost of 0.12% of GDP- mostly salaries, 74%- , which is summarized at a cost of a monetary unit for every 100 Collected (0.96%). However, in all the indicators there is a wide range of variability not related to a simple indicator of its economic differences, such as GDP per capita. In addition, it should be borne in mind that these indicators, although they have a descriptive usefulness, cannot be considered, for different reasons, as indexes of efficiency-inefficiency or good management or mismanagement of each of the Tax Administrations referred. In the document we try to progress in overcoming these shortcomings by putting in relation the cost of collection and the relative levels of taxation.

With regard to the analysis of the personnel in the service of the Tax Administrations, the results show that, in average, an employee of the tax administration would “deal with” 5,026 citizens or 3,216 working age citizens, figures that rise to 6,258 and 3,968 If we speak of the employees specifically in tax tasks, with, again, enormous heterogeneity. Additionally, the ratios of number of active taxpayers in the Individual Income Tax (IIT), Corporate Income Tax (CIT) and Value Added Tax (VAT) per employee and per employee in taxation tasks, are analyzed. These new indicators change in part the perspective of the different administrations.

The last dimension addressed is that relating to the duties entrusted to the personnel of the Tax Administrations. In average, the main function would be auditing, investigation and other verifications, occupying 30% of the employees, followed by the tasks of support, 23%, registration and taxpayer services, 14%, refunds and payments, 11%, coercive collection, 10%, conflicts resolution, 4%, and others, 6%.

Finally, the data for the Customs Administration for those administrations of the CIAT member countries that have an integrated structure are analyzed. The cost/collection ratio is usually clearly higher than in internal tax, with an average of 1.8. In average, the collection obtained in customs is equivalent to 30% of the one managed in internal taxes whereas its budget and personnel amount to 40%, approximately, of the one dedicated to the taxes not collected at borders. Globally, the collected revenue is on average 3.6% of GDP, compared to 13.3% of domestic tax, with a current expenditure budget equivalent to 0.09% of GDP.

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Introduction

The tax administration is a key organization in the functioning of any modern state and the compilation and analysis of data in terms of its structure, means and results constitute one of the main avenues for the improvement of its performances.

From the joint effort of IMF (International Monetary Fund), IOTA (Intra-European organization of Tax Administrations), OECD (Organization for Economic Cooperation and Development) and CIAT (Inter-American Center for Tax Administrations) has emerged **ISORA (International Survey on Revenue Administrations)**, a unified and homogeneous survey addressed to the Revenue Administrations of 148 countries, complementing the efforts already made in this field in previous years -IDB, CAPTAC-RD, CIAT (2012); CIAT (2016); OECD Tax Administration Comparative Information Series from 2004, the RA-FIT platform of IMF, etc.

The survey collects collection data, institutional structure, budget and human resources, segmentation and taxpayer registration, returns filing and payments, taxpayer assistance and tax education, enforced collection of debts, inspection, audit, investigation of tax fraud and dispute resolution mechanisms.

The participating administrations will have access to data for the development of relevant studies through different web platforms. In addition, participating entities can use the data available to perform their own analyses.

In this working paper, we offer **a first approximation to the data compiled for CIAT member countries, focusing on the results obtained -the collection managed by each of the administrations- and their available resources -budgets and human resources- in 2015**. Subsequent working papers will continue this work by addressing other areas of the survey.

From the outset it is important to highlight that the data used are provided by the countries themselves -with minimal adjustments for correction of errata- and that the analyses and the tests carried out have a descriptive character and, although they can be very useful as reference for the relative positioning of the different administrations, they do not constitute an estimation of their efficiency or inefficiency. Despite the breadth and quality of the data collected, the diversity of economic structures, levels of development and tax policies prevents from directly inferring such judgments from the data.

The main objective of this document is to begin to present the enormous informative wealth contained in the survey to the participating countries and administrations and analyze the pros and cons of some of the potential uses of the data, encouraging their respective study services to deepen the task.

1. COLLECTION AND COSTS OF THE TAX ADMINISTRATIONS OF CIAT COUNTRIES

Table 1 summarizes the results of the survey in relation to the net collection -after refunds-managed by tax administrations in internal taxes- excluding those collected at the border¹ -, their associated current spending budgets -disaggregating the wage share-in relation to the size of their economies and the cost ratio for collection. In addition, the first column collects GDP per capita in dollars and in terms of purchasing power parity, thus correcting price differences.

The average results reflect a **centrally managed collection of internal taxes of 13.3% of GDP with a current cost of 0.12% of GDP -mostly salaries, 74%-, which are summarized at a cost of a monetary unit for every 100 Collected (0.96%)**. However, in all the indicators there is a **wide range of variability**, something that should not be surprising given the differences in size and degree of development of the countries, illustrated in the per capita GDP chart and Graph 1.

The difference between the highest GDP (USA) and the smallest (Kenya) is more than \$53,000, the first one being more than 18 times higher than the second. In more technical terms, the average is around \$19,000, but the standard deviation rises to 14,000, implying a coefficient of variation of more than 73%.

Similarly, **the weight of the taxes managed on GDP varies between 23.42% of Portugal and 5.08% of India** -Graph 2- **while the administration's expenditure on GDP ranges between 0.29% in Portugal and the much lower budgets of Panama (0.02%) or Guyana (less than 0.01)** -Graph 3-. Only the proportion of salaries in relation to the total current expenditure is more homogeneous with the majority of the countries in figures between 70 and 90% - Graph 4-.

Thus, logically, **the relative costs of collection also vary enormously around the average of 1% (from a maximum of 2.45% in Guatemala to the minimum of 0.22% in Panama)** – See Graph 5 –

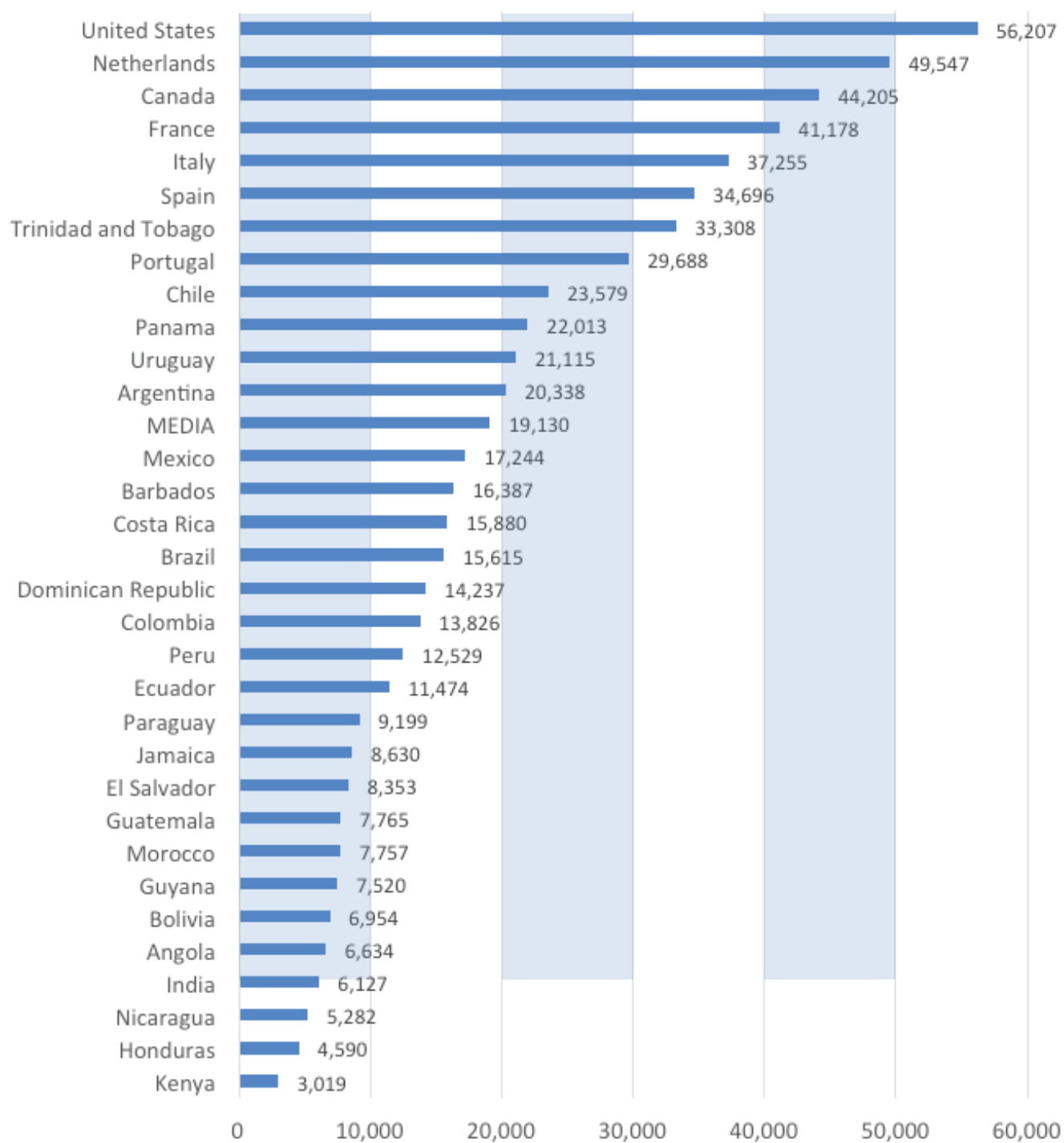
1 This indicator should never be confused with the country's fiscal pressure or global income figures since non-tax revenues are not included, nor those collected by sub-central agencies, contributions to social security or tax revenues collected at the border. This last exclusion, the taxes collected at frontier, is carried out to be able to analyze with a greater degree of homogeneity the results and means of the different tax administrations, many of which administer only internal taxes. For those administrations that manage internal taxes and customs, ISORA requests the information in a disaggregated way, in the last chapter of this document we will use this information to perform a compared analysis in those administrations of the CIAT members that have an integrated tax and customs system.

Table 1. Collection and costs of the CIAT members tax administrations (2015)

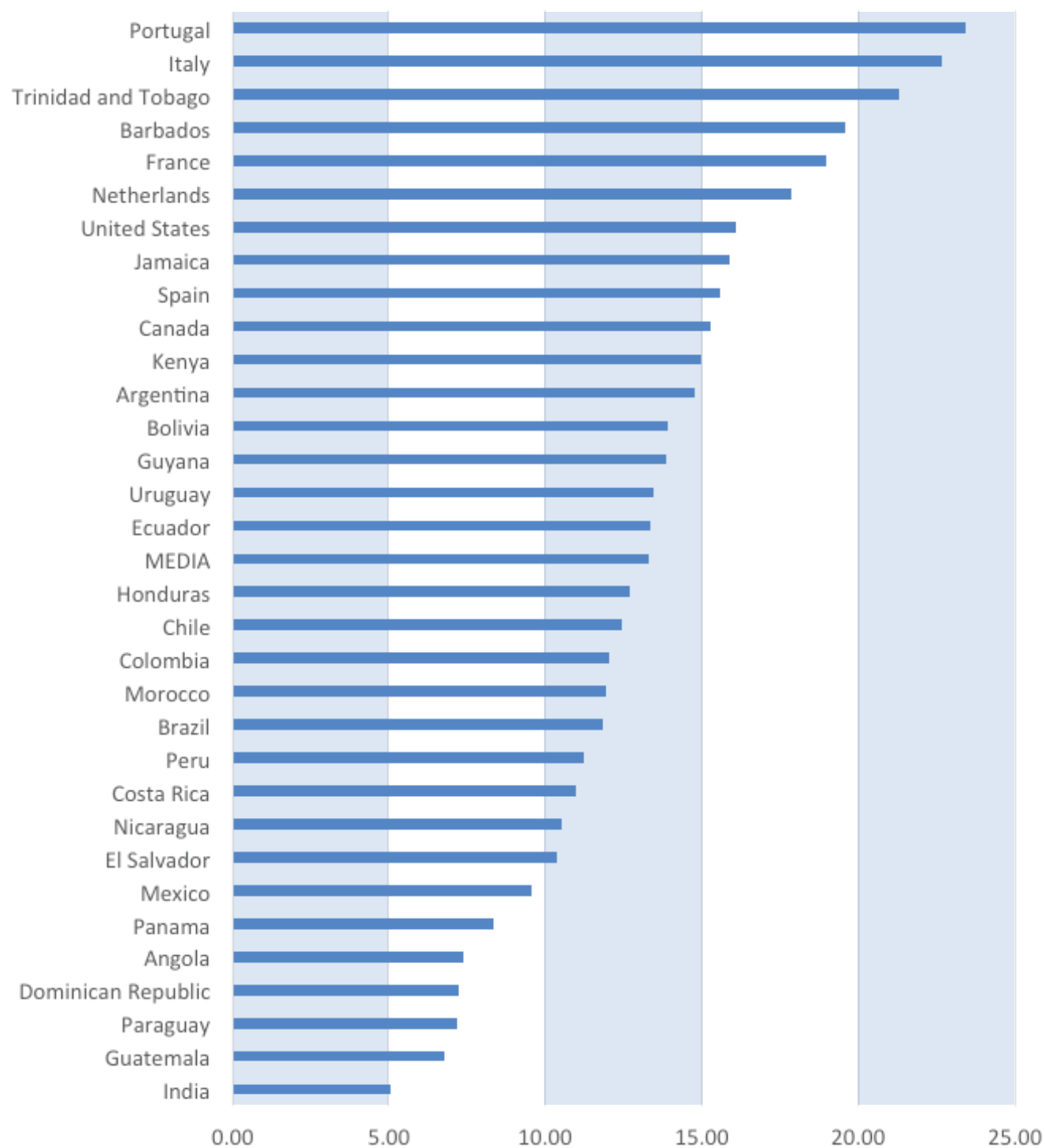
Countries	GDP pc in PPP	Taxes /GDP	Adm. costs /GDP	Salaries/ Ordinary budget	Collection cost (Ordinary budget/ Tax collection)
Angola	6.634	7,37	-	-	-
Argentina	20.338	14,79	0,07	-	0,49
Barbados	16.387	19,57	0,26	75,38	1,34
Bolivia	6.954	13,89	-	-	-
Brazil	15.615	11,82	0,06	78,20	0,51
Canada	44.205	15,29	0,17	86,87	1,09
Chile	23.579	12,42	0,11	88,28	0,85
Colombia	13.826	12,03	0,08	50,63	0,63
Costa Rica	15.880	10,98	0,11	44,10	1,04
D. Republic	14.237	7,24	0,11	72,02	1,53
Ecuador	11.474	13,37	0,06	-	0,45
Salvador	8.353	10,36	0,07	86,55	0,69
France	41.178	18,96	0,21	91,90	1,10
Guatemala	7.765	6,77	0,17	-	2,45
Guyana	7.520	13,85	0,00	-	-
Honduras	4.590	12,71	0,13	89,71	0,99
India	6.127	5,08	0,03	59,99	0,59
Italy	37.255	22,64	0,15	58,99	0,66
Jamaica	8.630	15,86	0,18	98,23	1,14
Kenya	3.019	14,95	-	-	-
Mexico	17.244	9,54	0,04	80,89	0,37
Morocco	7.757	11,93	0,06	77,37	0,52
Netherlands	49.547	17,84	0,24	75,67	1,33
Nicaragua	5.282	10,51	0,13	72,00	1,27
Panama	22.013	8,34	0,02	76,55	0,22
Paraguay	9.199	7,16	0,13	46,52	1,83
Peru	12.529	11,21	0,16	71,37	1,39
Portugal	29.688	23,42	0,29	74,91	1,22
Spain	34.696	15,60	0,13	73,83	0,81
Trinidad and Tobago	33.308	21,32	0,16	63,18	0,75
United States	56.207	16,08	0,06	73,15	0,39
Uruguay	21.115	13,44	0,17	86,89	1,24
MEDIA	19.130	13,32	0,12	74,13	0,96

Source: Created by authors, from ISORA data and World Bank Development Indicators.

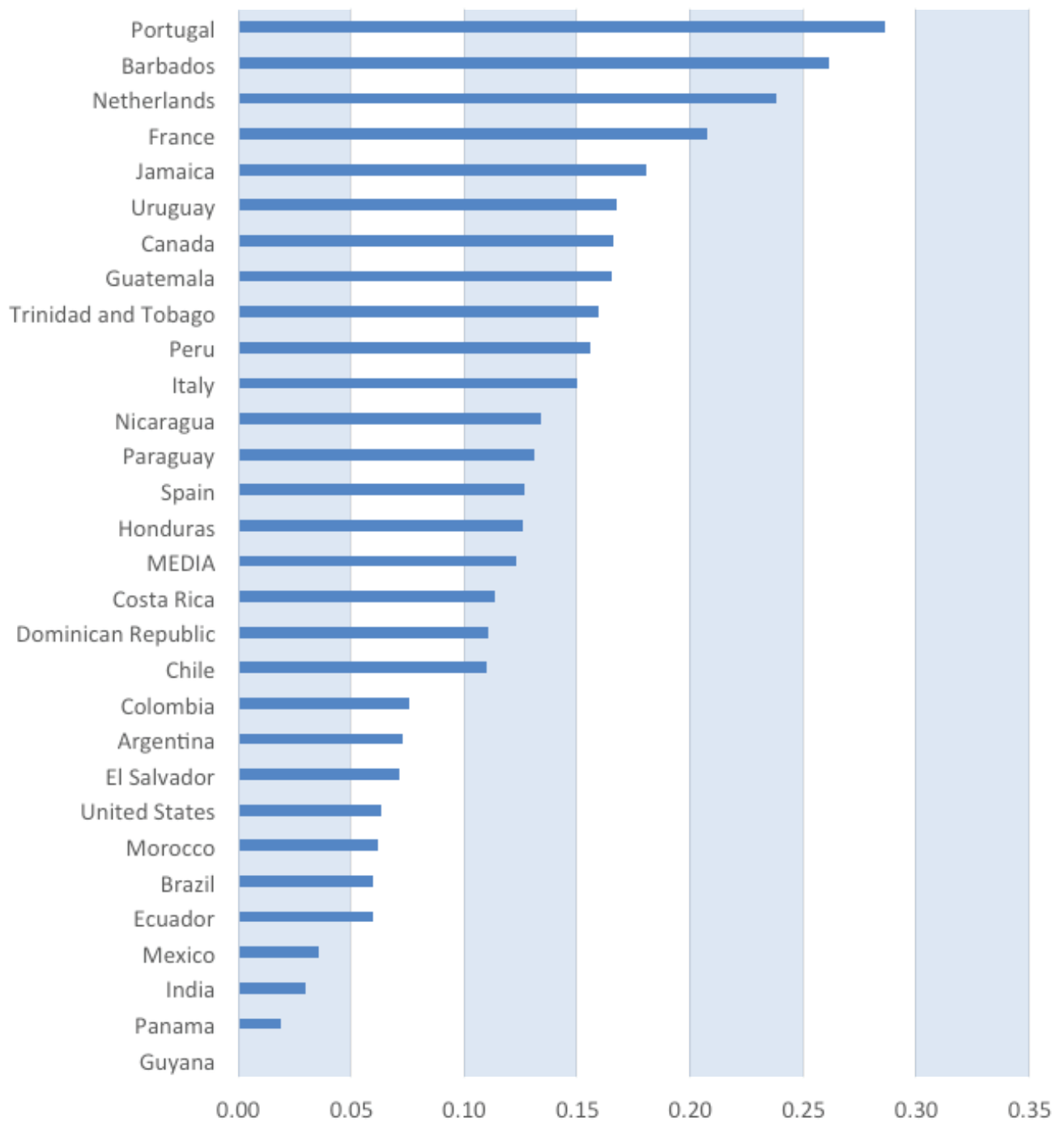
Graph 1. GDP pc in \$ PPP



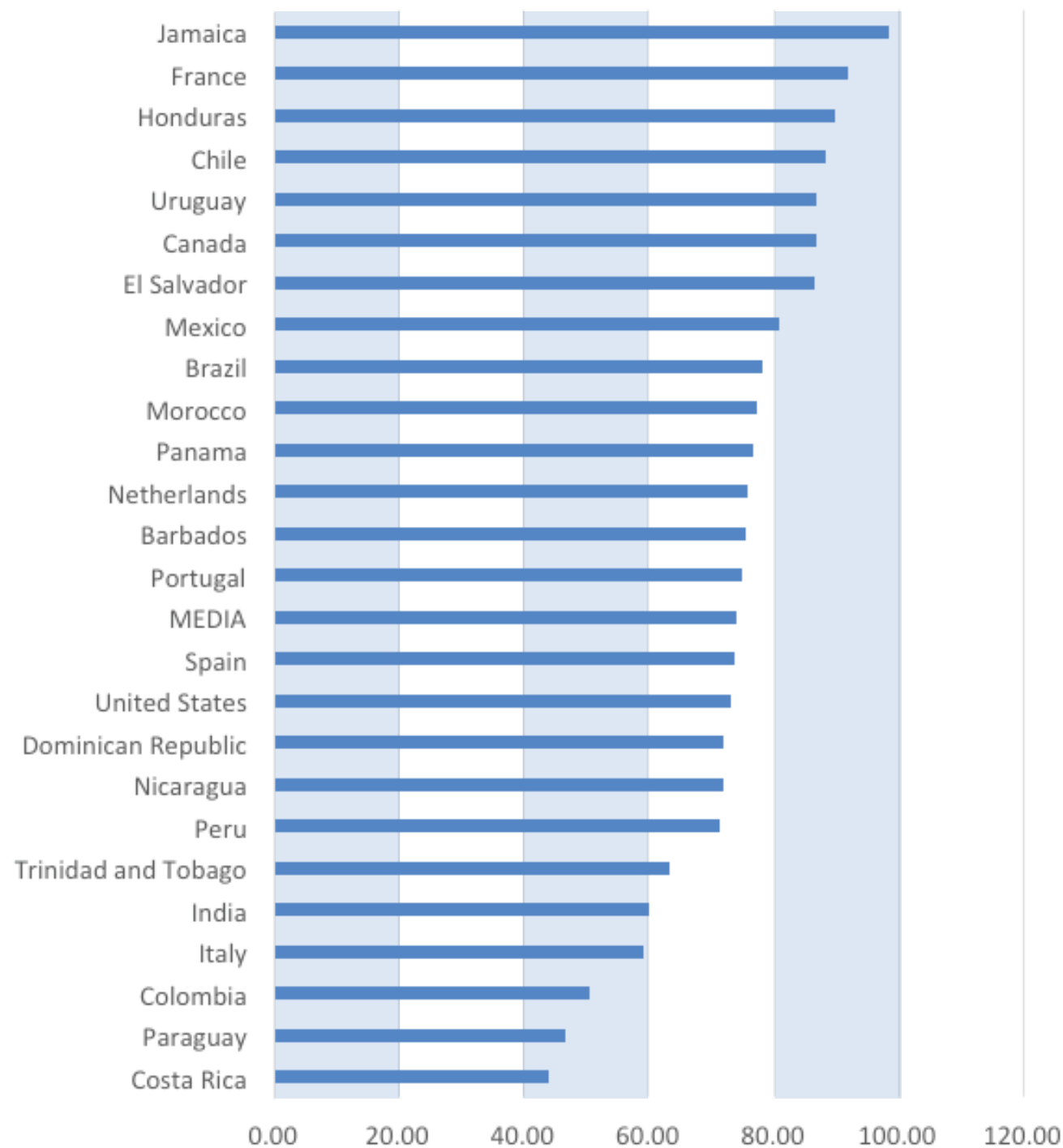
Graph 2. Taxes/GDP



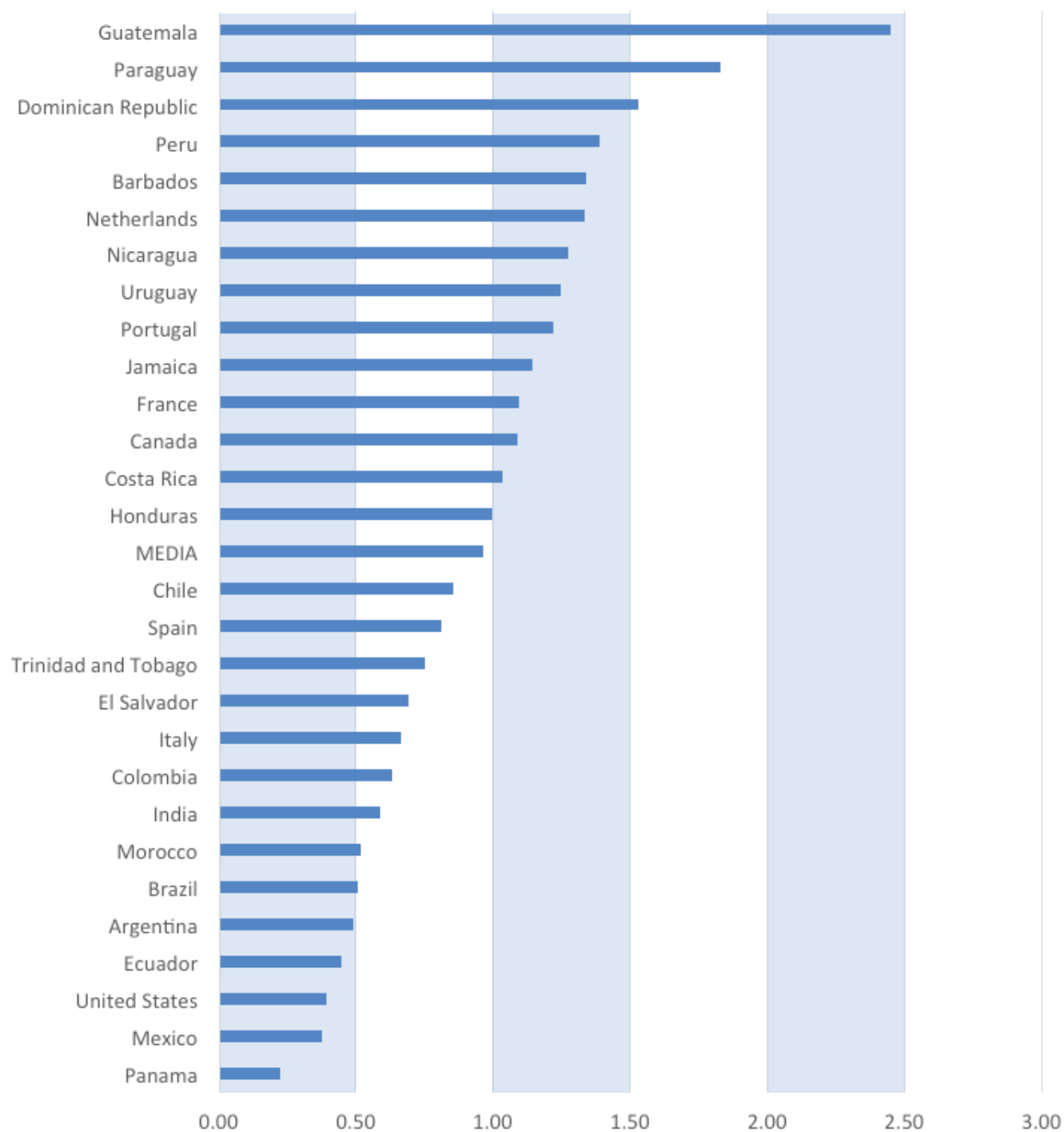
Graph 3. Adm Costs/GDP



Graph 4. Salaries/Current budget



**Graph 5. Collection cost
(Ordinary budget/Tax collection)**



Moreover, this variability is not easily correlated with a simple indicator of economic differences, such as GDP per capita. Graph 6 shows the relationship between the degree of relative income and the level of tax collected, and despite the expected sign (positive: a higher GDP is linked to higher collection), the coefficient that records the amount of the relationship between the variables is very small (0.0002) and the goodness of fit is scarce ($R^2 = 0.35$). **The income level per capita does not explain the differences in the volume of taxes managed in relation to GDP.** Thus, for example, Kenya, Jamaica, Argentina, Spain, Canada, and the US presents a similar level of taxation (around 15-16%) with abysmal income differences.

Nor does the cost incurred in the administration of taxes (costs in relation to GDP) relate to the GDP per capita level -Graph 7-. Both the coefficient that should mark the intensity of the relationship and the coefficient of determination that shows the goodness of fit have even lower values. In general, the tax administration does not receive more “investment” when it is richer.

Thirdly, **neither the cost of the collection (Administration’s budget with respect to the collection obtained) has a linear relationship with the per capita income level** - Graph 8-. In this case both the R^2 and the coefficient of relationship between the explanatory variable and the explained variable are minimal. Wealthier countries do not prove to be more “effective” in terms of cost-collection than the “poorer” (or otherwise).

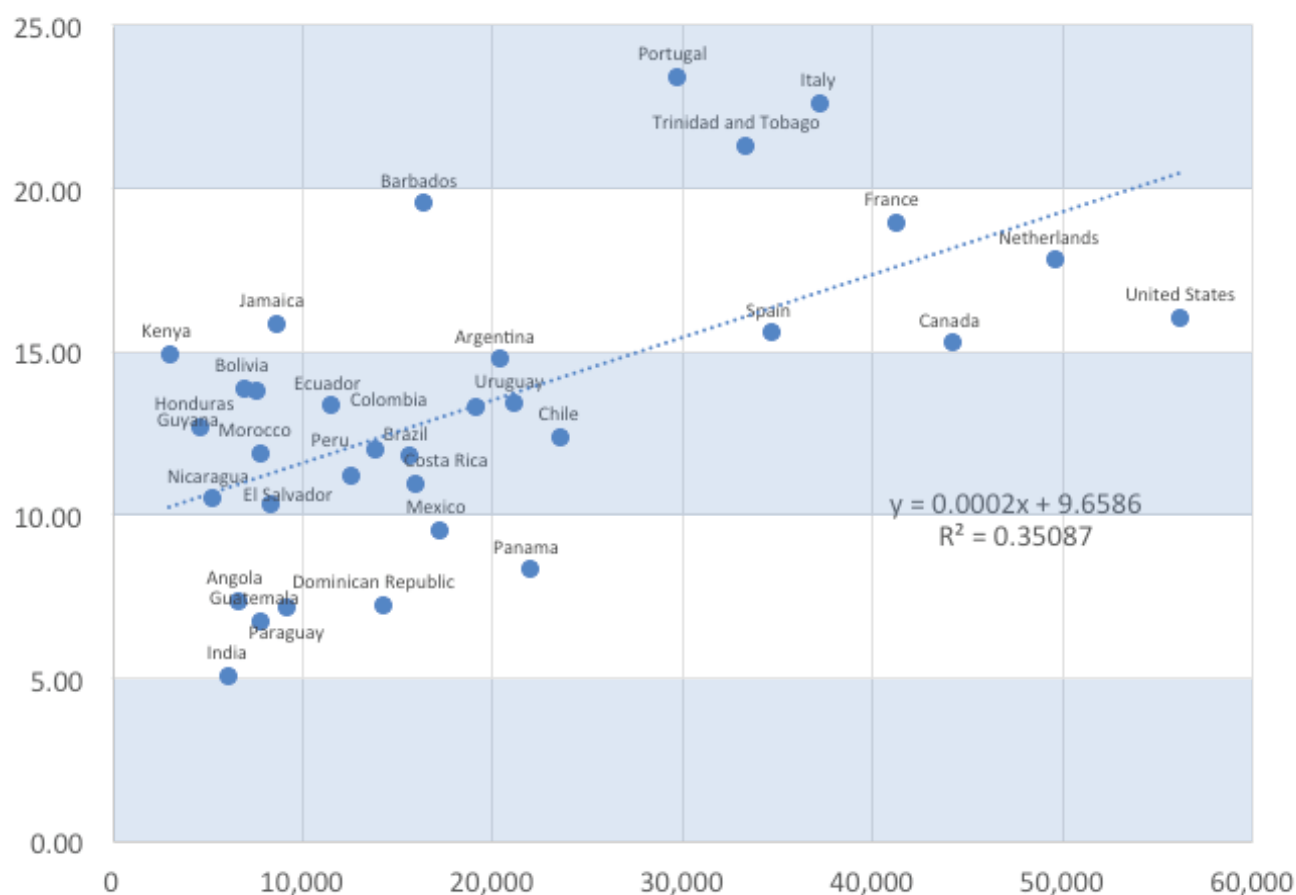
In all cases, we must insist that this indicator, while it has a descriptive utility and shows that the **cost of collecting taxes is generally very low** -1% average with a maximum of less than 2.5% in all cases-, **it cannot be considered as an index of the efficiency-inefficiency or good or mismanagement for each of the Tax Administrations** contemplated for different reasons, including:

- **It does not take into account the characteristics of the economy** -and the society- in which they operate, such as their levels of informality, the concentration of their economic activity or the situation at the moment of measurement.
- **It does not consider the legal framework** -which is outside the competences of the tax administration- **that determines the capacity of action of the tax administration**, as could be the possibility of accessing the financial information of the citizens and companies, the possibility of introducing coercive measures for the collection of debts or the framework of penalties in case taxpayers elude voluntary compliance.
- **It does not consider the tax policy** -here again, out of the administration’s scope-and the normative levels and conditioning structure of taxation that facilitate or complicate the collection. A tax system based on taxes with broad bases, without exemptions, benefits or tax credits and with simple taxation rates will always be easier-and cheaper-to manage. Similarly, to equal tax structure, higher rates-without reaching extremes- ensure greater revenues with equal effort.

- It does not consider the differences in the degree of compliance of the rules, that is, of fraud or tax evasion. A lower collection cost could hardly be considered more efficient if achieved at cost, for example, to squeeze a sector of taxpayers with less possibility of tax planning compared to another sector that manages to evade the payment of taxes by fraud or avoidance.

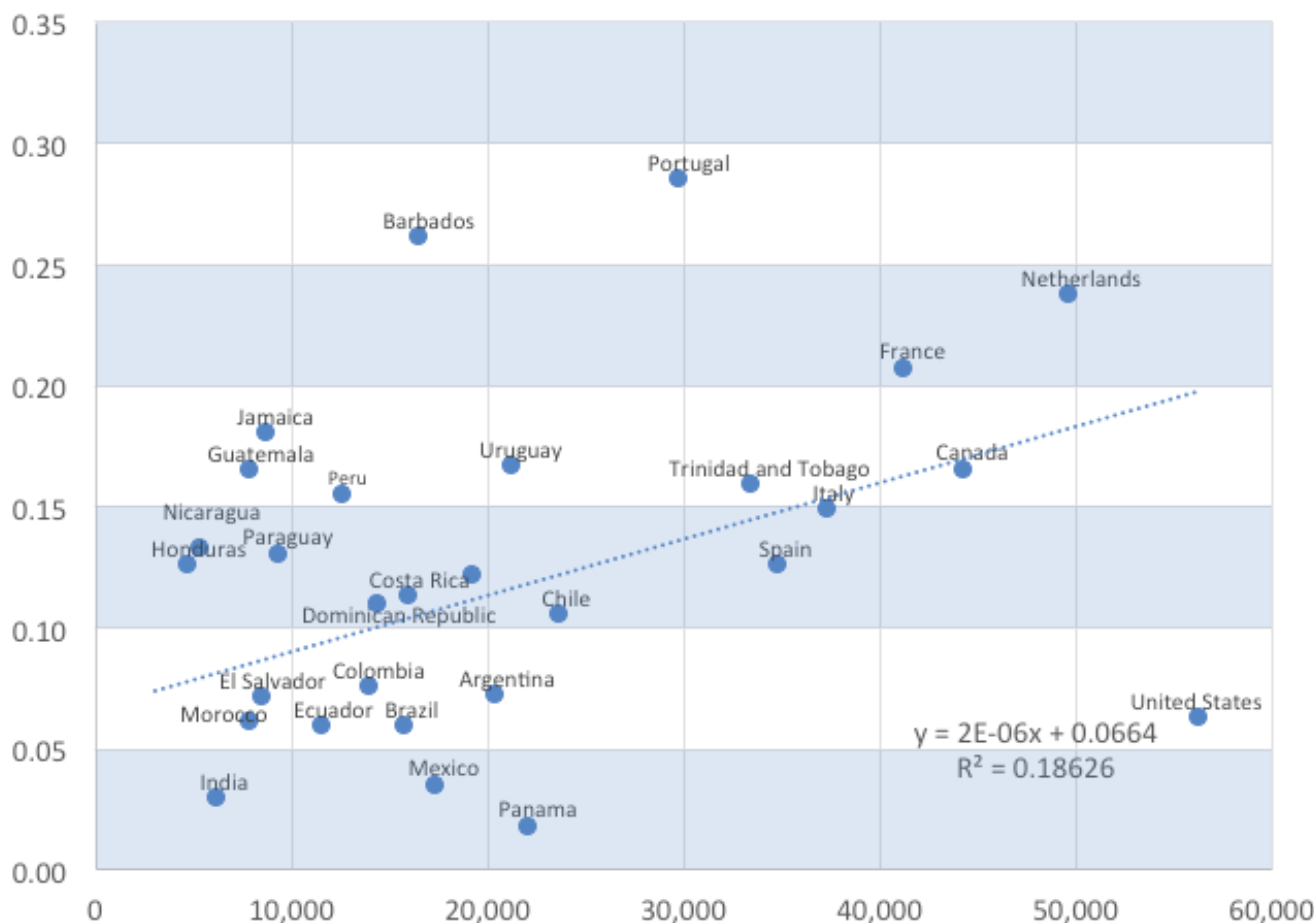
A task, therefore, much more complex and demanding².

Graph 6. Per capita GDP in \$ PPP and taxes collected by the TA/GDP (%)



² It should be added that the analysis of the results for a single country over time ensures a correct estimate of the evolution of the efficiency or inefficiency of its administration won't be correct, either, if the variations in the time of these other factors conditioning its capacity to act are not controlled

Graph 7. GDP pc in \$ PPP and Tax Administration cost/GDP (%)



Graph 8. GDP pc in \$ PPP and Collection Cost

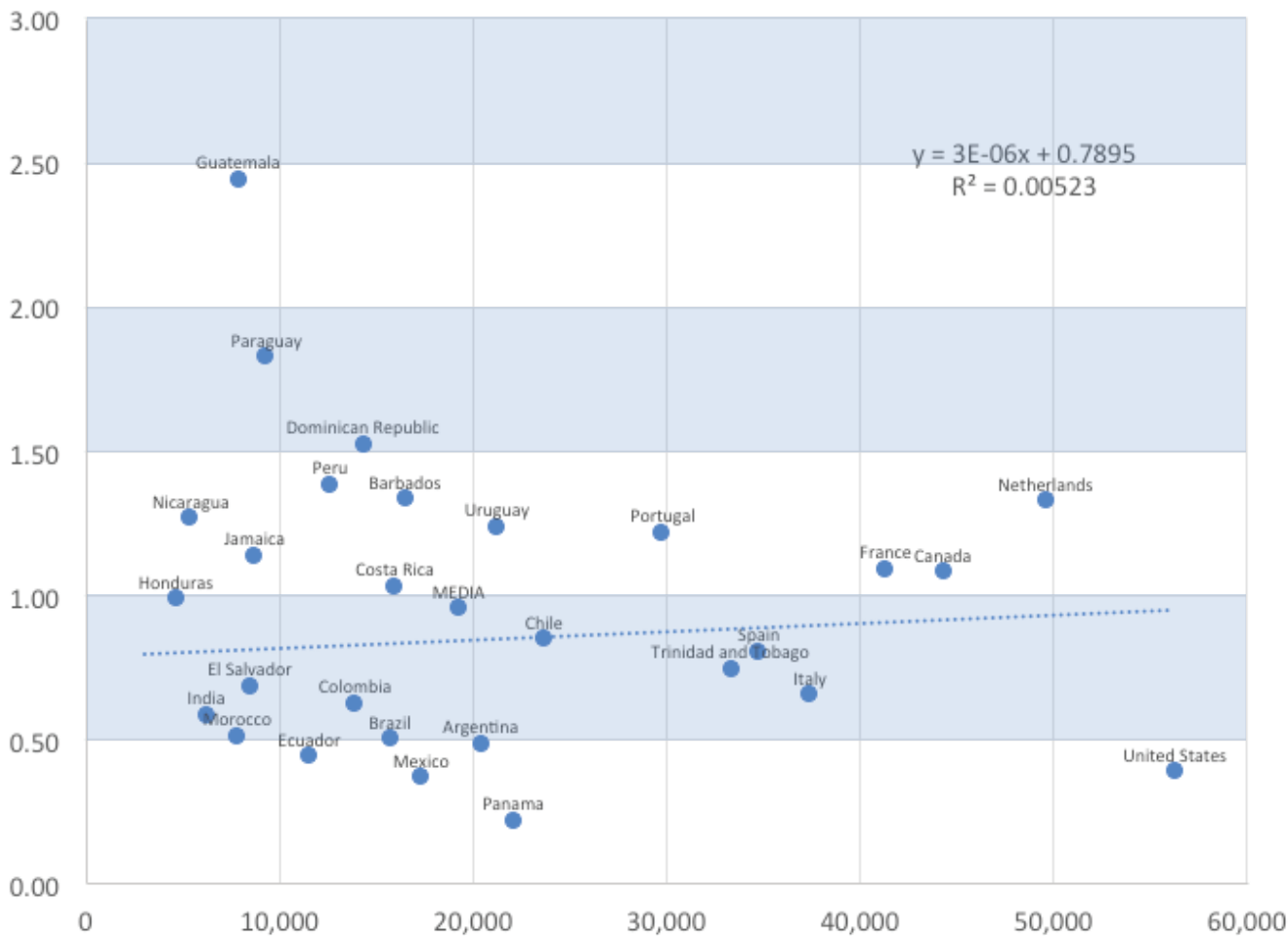


Table 2 and **Graphs 9** and **10** propose some improvement to this normative measurement of the costs-results of the administrations.

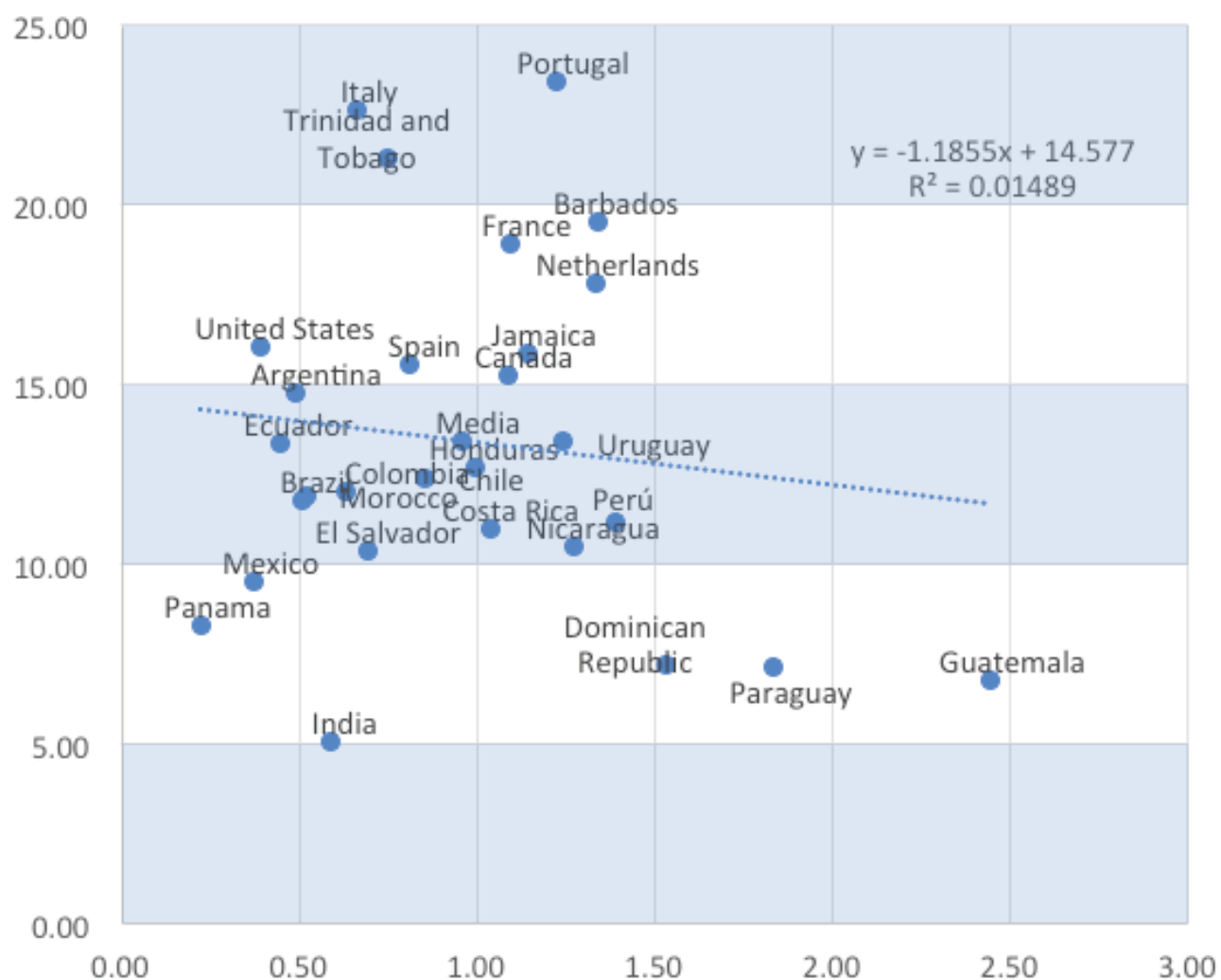
To this end, we combine the available information of costs/collection and volume of revenue managed by the administration in relation to the GDP, using this second indicator as an approximation to the “level of taxation” -effective rates- decided exogenously by the tax policy of each country. In principle, in a higher-rate environment the cost of the collection should be reduced.

Graph 9 shows this relationship in levels and, while the relationship has the expected sign (negative: the higher the level of revenue from GDP, the lower the relative cost of revenue management) the value of adjustment ($R^2 = 0.0149$) is too small to give validity to the analysis when comparing and evaluating the “efficiency” of the administrations. That is, the regression line as a reference point shows a very low representability (if it were representative, the countries to the left of the line would be the most efficient in terms of cost, once corrected this circumstance with the difference of tax levels).

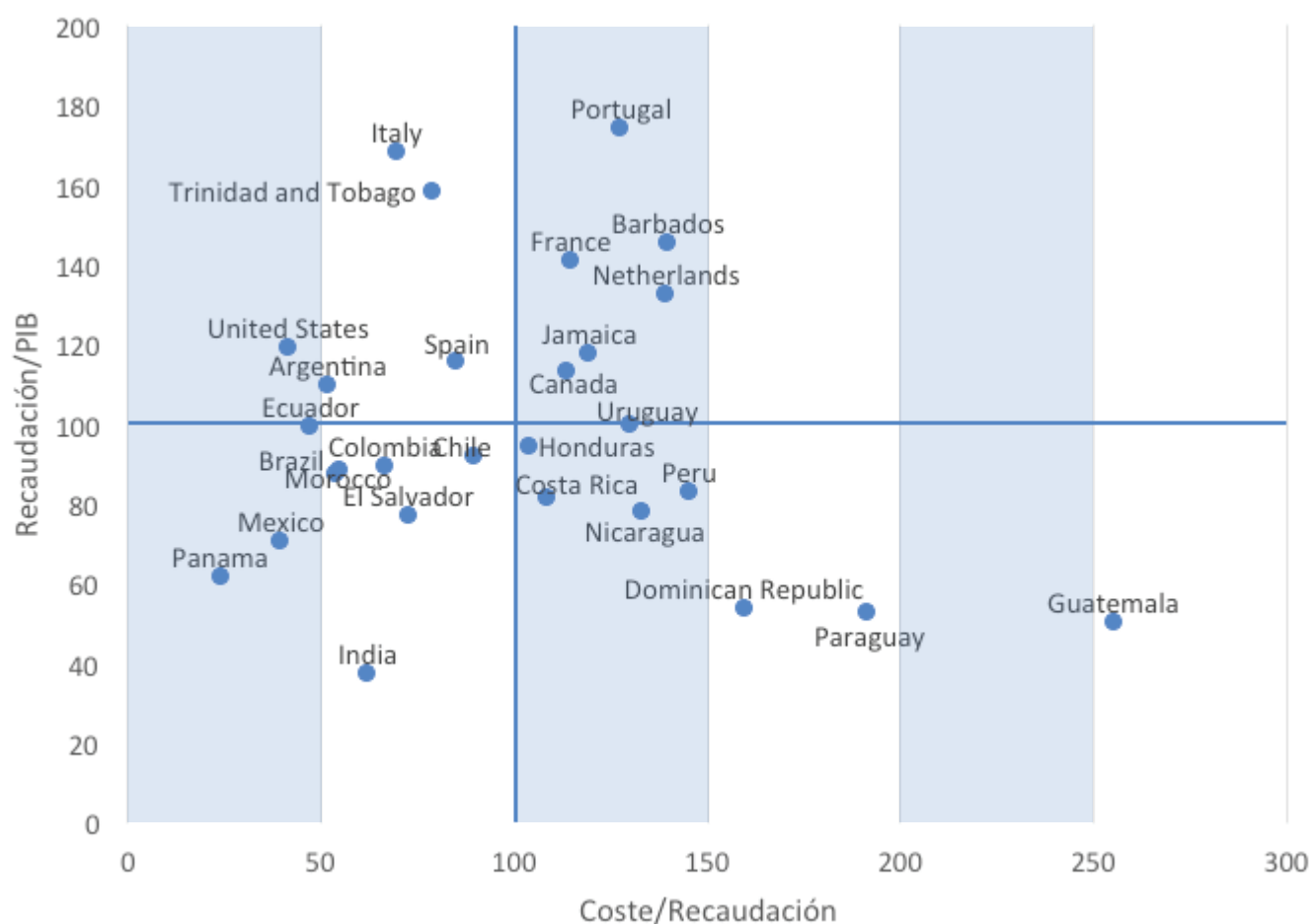
Table 2. Cost Indexes and collection level

Counties	Costs/ Collection	Taxes/ GDP	Costs/Collection Index	Taxes/GDP Index
Argentina	0,49	14,79	51,19	110,07
Barbados	1,34	19,57	139,28	145,60
Brazil	0,51	11,82	52,86	87,96
Canada	1,09	15,29	113,02	113,76
Chile	0,85	12,42	88,75	92,42
Colombia	0,63	12,03	65,80	89,50
Costa Rica	1,04	10,98	107,81	81,69
Dominican Republic	1,53	7,24	159,19	53,89
Ecuador	0,45	13,37	46,61	99,47
Salvador	0,69	10,36	72,03	77,12
France	1,10	18,96	114,04	141,12
Guatemala	2,45	6,77	254,69	50,39
Honduras	0,99	12,71	103,39	94,58
India	0,59	5,08	61,35	37,78
Italy	0,66	22,64	68,85	168,48
Jamaica	1,14	15,86	118,75	118,04
Mexico	0,37	9,54	38,92	70,98
Morocco	0,52	11,93	53,90	88,74
Netherlands	1,33	17,84	138,83	132,75
Nicaragua	1,27	10,51	132,42	78,22
Panama	0,22	8,34	23,23	62,04
Paraguay	1,83	7,16	190,58	53,29
Peru	1,39	11,21	144,60	83,43
Portugal	1,22	23,42	127,06	174,31
Spain	0,81	15,60	84,46	116,08
Trinidad and Tobago	0,75	21,32	77,97	158,64
United States	0,39	16,08	40,92	119,62
Uruguay	1,24	13,44	129,51	99,99
Media	0,96	13,44	100,00	100,00

Graph 9. Tax/GDP and Cost/Collection



Graph 10. Costs and Collection Levels indexes (Average=100)



Another possibility to consider these two dimensions (cost per unit collected and tax rate level) is to “normalize” both with respect to the average, in the form of indexes with respect to the average (100%) and to represent them together in a single chart (Graph 10).

If we suppose that the ratio between collection and GDP is a reliable indicator of the effective tax rates levels (an approximation to the “fiscal pressure” managed by the administration of internal taxes, without fraud or inefficiencies in the collection management) and that the average behavior is an appropriate reference point, the graph allows us to distinguish four areas:

- A. In the upper left area we find countries that have a high level of “fiscal pressure” and reduced costs with respect to collected revenues, which would be logical (for the same investment in administration, higher “rates” allow collecting higher amounts).
- B. In the upper right we would find the countries that, despite having high tax rates also have high management costs per monetary unit collected
- C. In the lower left we would locate countries with low fiscal pressure and which, however, manage to maintain low management costs per unit of revenue.

D. And finally, in the lower right we would find the countries whose level of tax level is lower and, logically, bear higher administrative costs for their collection in relation to the amount entered.

The implications are better understood if we establish comparisons by pairing countries, for example with the same or a similar collection level in regard to GDP, such as the US and Jamaica (around 120% of the average, equivalent to 16% of GDP). The US would spend 0.39 cents per dollar collected (40% of the average), while Jamaica 1.14 cents per dollar (117% of the average). Similarly, the administrations of countries with a similar cost per unit collected, such as India and Italy, for example, would achieve this result with the “help” of very different tax “rates” (much lower for the first).

In any case, it should be repeated that this analysis is only valid in the hypothesis that the levels of fraud would be equal between countries. If, for example, a low “fiscal pressure” is because the level of evasion is very high and not because the effective tax rates on taxpayers who comply with their obligations are reduced, the conclusions would be totally different. In other words, in order for the analysis and efficiencies to be fully valid, we should have an estimate of the fiscal pressure in the absence of tax evasion.

However, the analysis shows the potential of the informative wealth obtained from ISORA to improve our knowledge of the functioning of tax administrations and their margins of improvement with respect to the best practices registered in the international environment.

2. HUMAN RESOURCES OF THE TAX ADMINISTRATIONS

ISORA allows us to analyze in greater detail the main resource used by the Tax Administrations, the human resources. Table 3 collects the indicators normally used to put into context the absolute numbers the administrations' personnel: the number of citizens -population- or the number of citizens of working age -active population from 15 to 65- per administration employee, and by employee of TA in specific taxation tasks -excluding those of support and complementary-. It also details the ratio of the number of employees in tax tasks in relation to the total.

On average, one employee of the tax administration would “deal” with 5,026 citizens or 3,216 citizens of working age, figures that rise to 6,258 and 3,968 if we refer to the employees in proper taxation tasks.

Again, heterogeneity is enormous, as shown in graphs 11 and 12 (in which countries are always ranked from more to less according to the first criteria, the population per employee). For example, every employee in India would deal with more than 17,000 people, compared to less than 900 in Barbados.

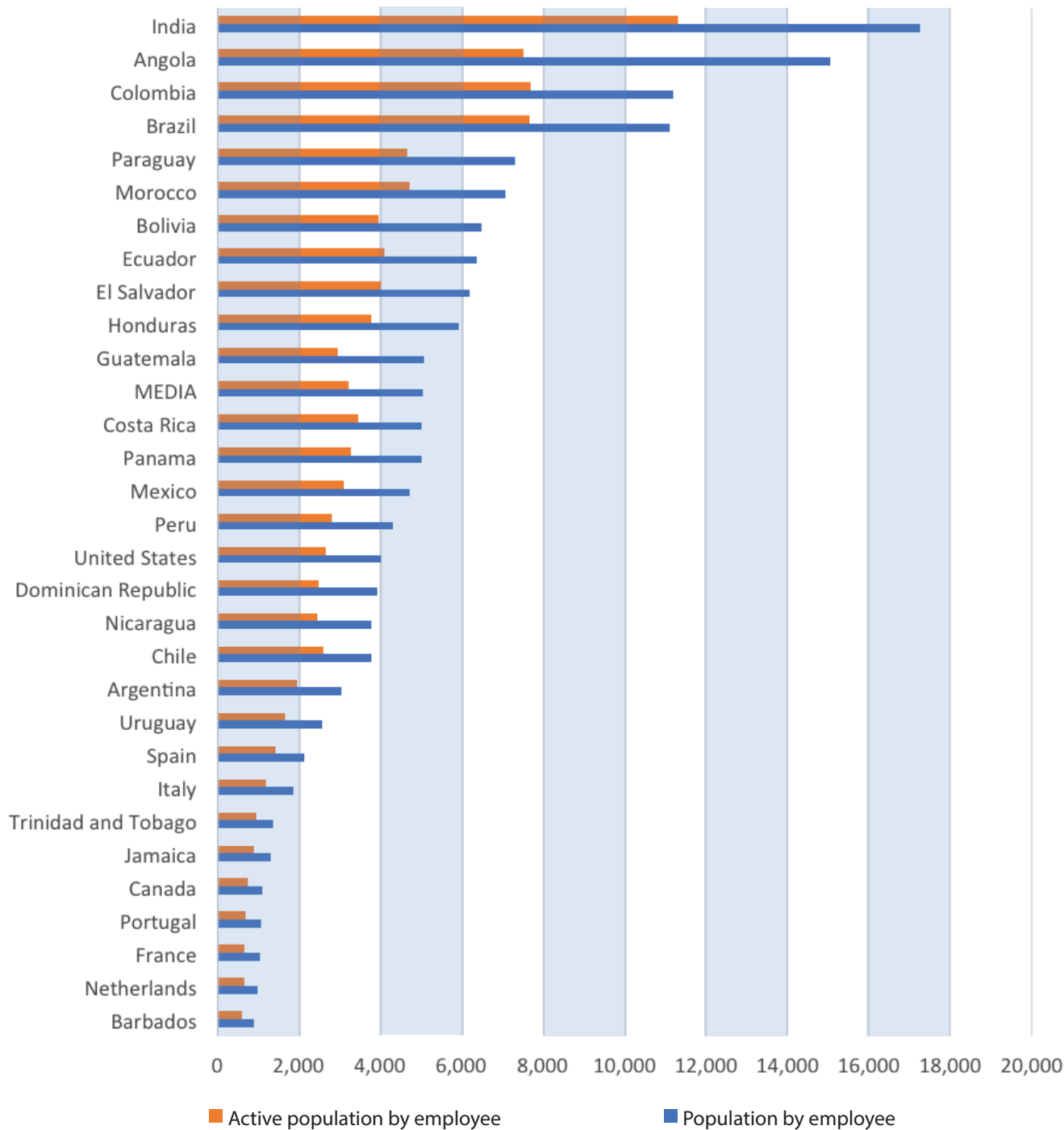
The use of the total population or the active population does not cause major changes in the management of the different administrations. However, the change of the denominator, switching to employees in purely tax-related tasks -Graph 12- would cause some modification, since the countries with the lesser proportion of them on the total (see in Graph 13, for example, Paraguay, Honduras, Dominican Republic or Nicaragua, all of them below 60%, compared to an average of 75%, obtain worse results).

Finally, as shown in Graph 14, **the population per employee ratio is not explained -at least not only- by a phenomenon of economies of scale**, as the position of India and Barbados at the extremes might indicate: the larger or lower total population of a country does not influences directly, in general, its value.

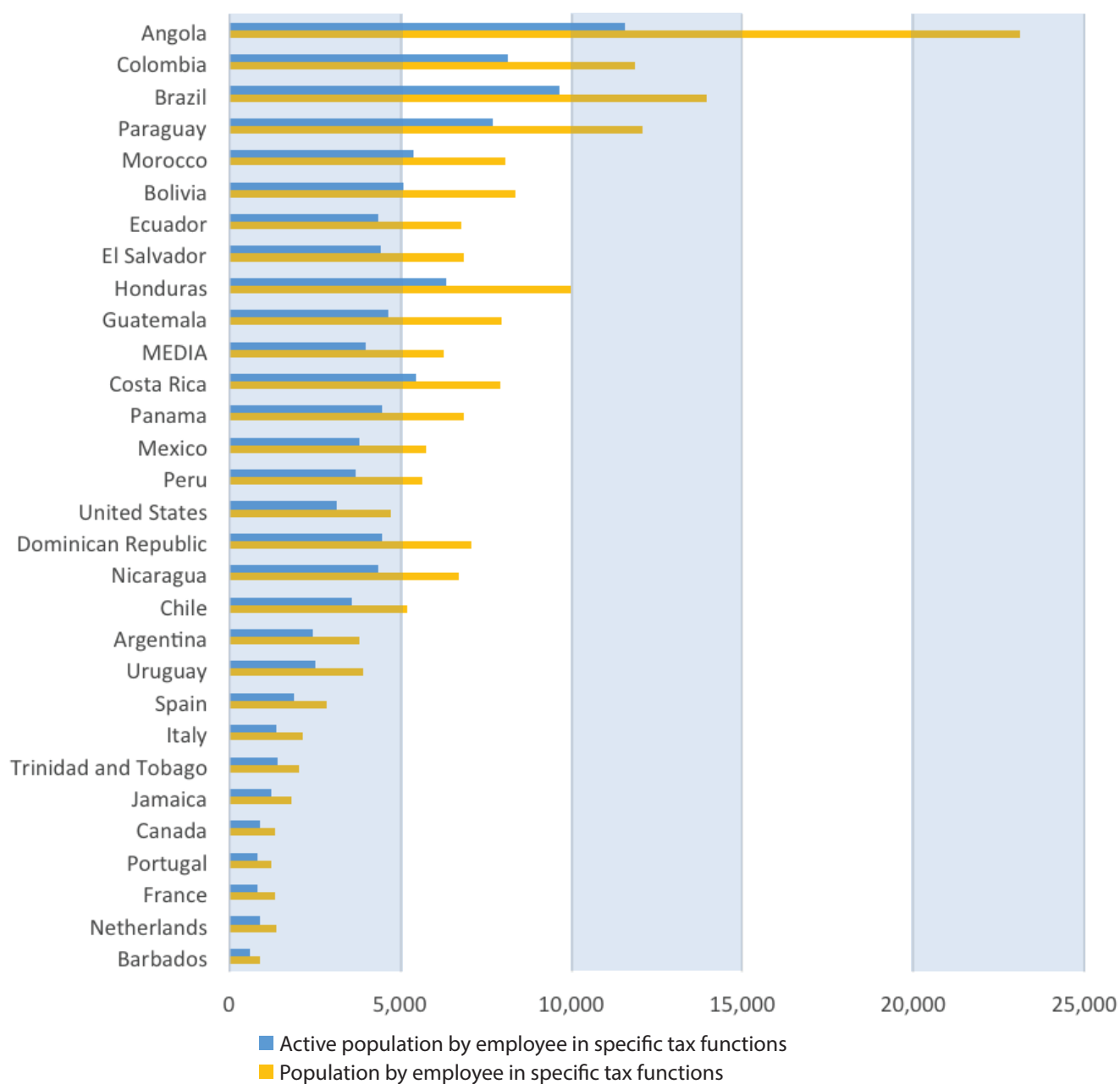
Table 3. Human resources of the Tax Administrations

Countries	Population per employee	Workforce per employee	Ratio employees tax/total (%)	Population per employee in tax tasks	Active population per employee in tax tasks
Angola	15.034,70	7.522,78	65,03	23.120	11.568
Argentina	3.041,31	1.942,77	79,84	3.809	2.433
Barbados	888,18	590,37	100,00	888	590
Bolivia	6.472,36	3.953,92	77,49	8.353	5.103
Brazil	11.090,52	7.666,62	79,46	13.958	9.649
Canada	1.084,81	736,50	81,81	1.326	900
Chile	3.775,28	2.599,28	72,73	5.191	3.574
Colombia	11.195,15	7.688,18	94,50	11.847	8.136
Costa Rica	5.002,97	3.441,56	63,27	7.908	5.440
Dominican Rep.	3.928,51	2.490,22	55,63	7.061	4.476
Ecuador	6.376,13	4.098,36	93,92	6.789	4.364
Salvador	6.176,59	4.002,41	90,31	6.839	4.432
France	1.037,87	647,59	77,88	1.333	832
Guatemala	5.055,19	2.958,83	63,48	7.963	4.661
Guyana	-	-	-	-	-
Honduras	5.934,32	3.761,41	59,47	9.979	6.325
India	17.246,63	11.313,06	-	-	-
Italy	1.869,32	1.194,12	87,90	2.127	1.359
Jamaica	1.314,99	884,76	72,48	1.814	1.221
Kenya	-	-	-	-	-
Mexico	4.712,37	3.106,75	81,74	5.765	3.801
Morocco	7.059,50	4.702,31	87,69	8.051	5.363
Netherlands	980,60	639,81	71,35	1.374	897
Nicaragua	3.780,01	2.452,48	56,43	6.698	4.346
Panama	4.999,05	3.259,54	72,80	6.867	4.478
Paraguay	7.295,74	4.658,01	60,44	12.071	7.707
Peru	4.290,53	2.800,83	76,10	5.638	3.681
Portugal	1.055,22	687,53	86,01	1.227	799
Spain	2.137,39	1.417,71	75,38	2.835	1.881
Trinidad and Tobago	1.356,02	946,62	67,10	2.021	1.411
United States	4.002,25	2.652,04	84,85	4.717	3.125
Uruguay	2.578,18	1.653,91	65,74	3.922	2.516
MEDIA	5.026	3.216	75,89	6.258	3.968

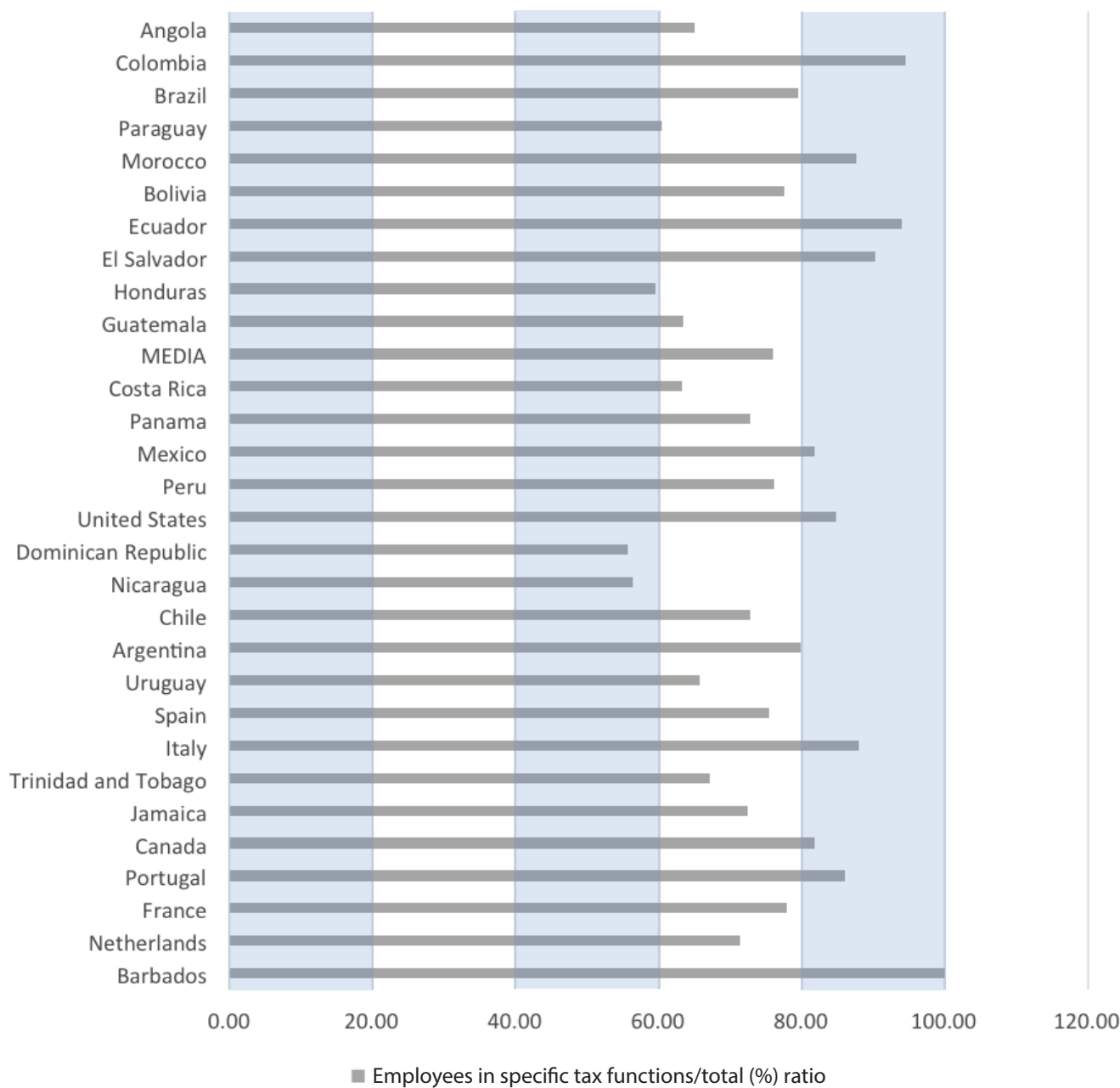
Graph 11. Population by employee



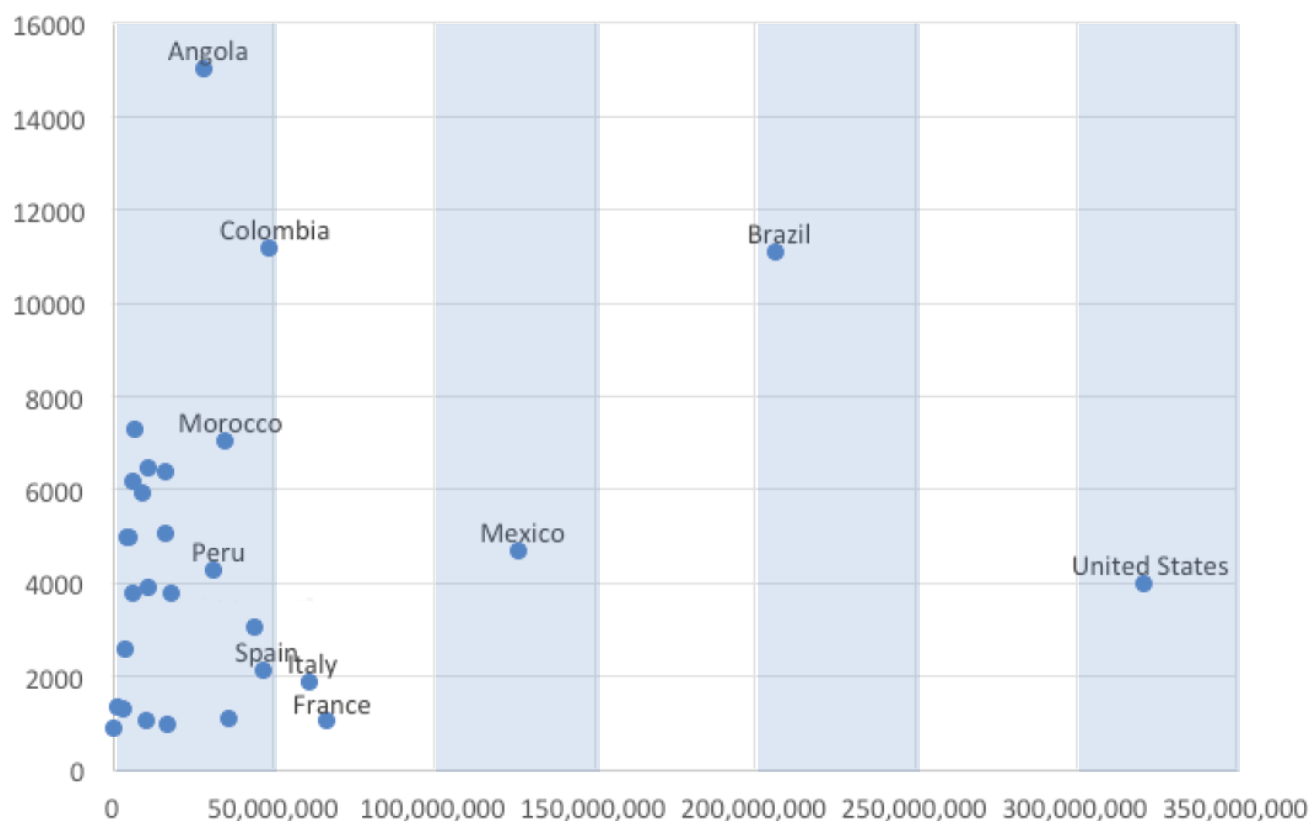
Graph 12. Population per employee with tax functions



Graph 13. Employees in specific tax functions/total (%) ratio



Graph 14. Total population and population by tax administration agent



ISORA provides us with other data, allowing us to further fine-tune this assessment of the human resources available to the tax administrations. In particular, we have the number of taxpayers registered and active in relation to the main tax figures³, a larger approximation, though obviously imperfect, to the real workload of tax employees.

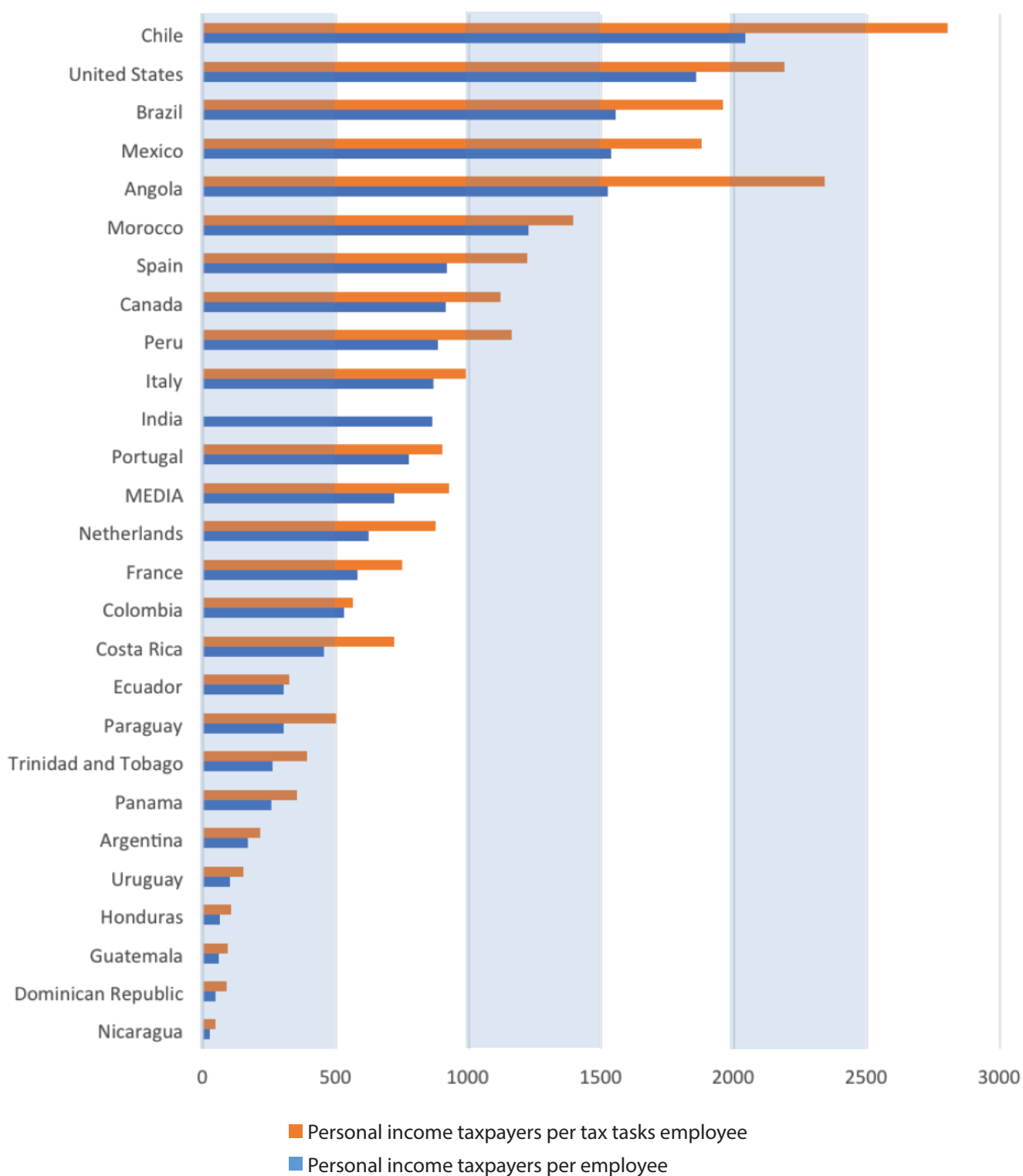
Table 4 presents **the ratios of number of active taxpayers in the Personal Income Tax (PIT), the Corporate Income Tax (CIT) and the Value Added Taxes (VAT) per employee and per employee in specifically tax tasks. These new indicators change in part the perspective of the different administrations.** For example, Chile, the United States or Mexico gain the first positions while in relation to the population they were located below the average, while this operates in the opposite direction for other countries such as Honduras or Guatemala.

3 In the case of Canada and Panama, the number of registered taxpayers has been used, since active are not available.

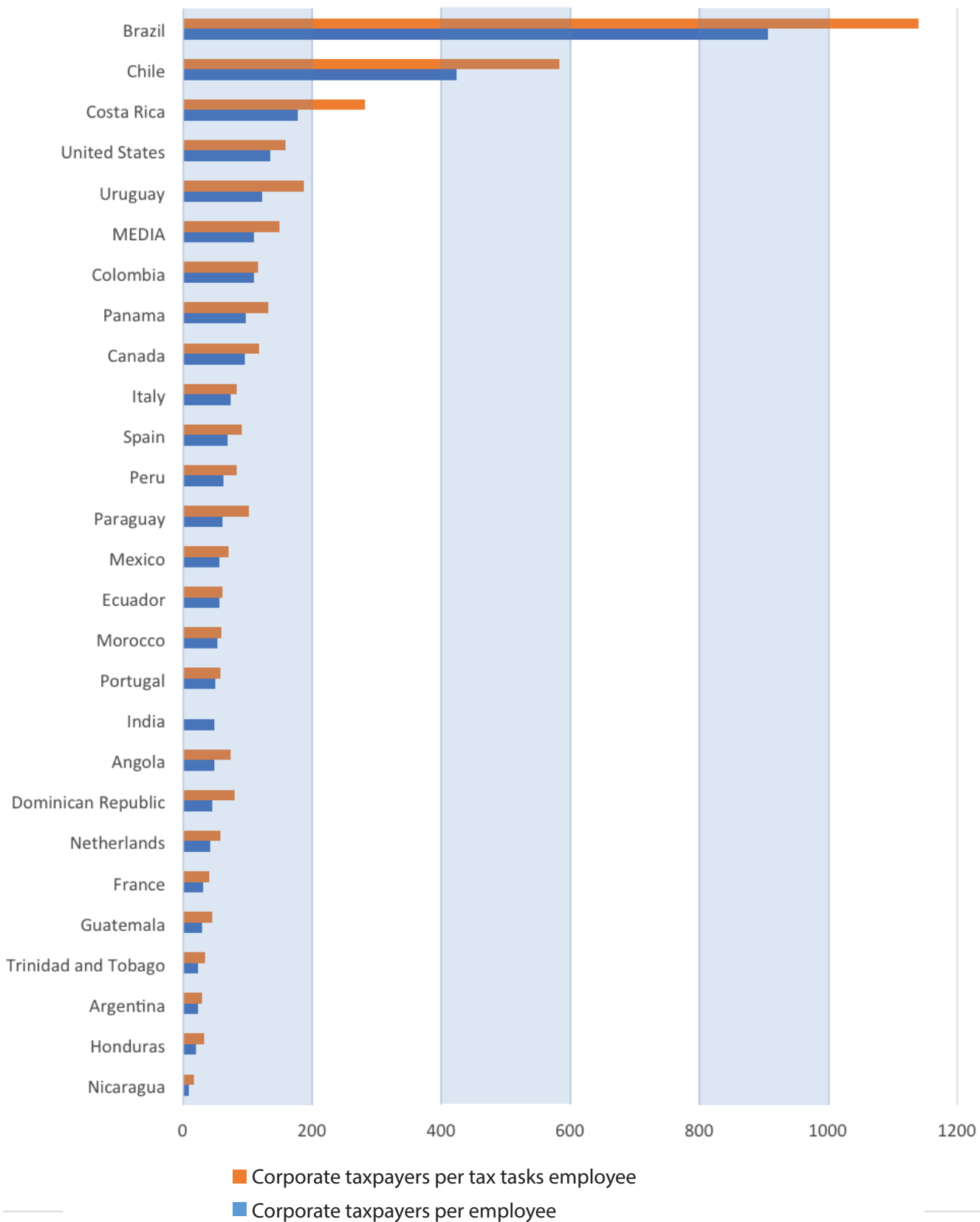
Table 4. Active Taxpayers and Tax Administrations employees

Countries	Active taxpayers by employee			Active taxpayers by employee working on tax tasks		
	PIT	CIT	VAT	PIT	CIT	VAT
Angola	1.522	47	-	2.341	73	-
Argentina	170	23	71	213	28	88
Barbados	-	-	34	-	-	34
Bolivia	-	-	-	-	-	-
Brasil	1.553	906	-	1.955	1.140	-
Canadá	915	96	115	1.118	117	141
Chile	2.039	423	336	2.804	582	461
Colombia	532	109	258	563	116	273
Costa Rica	455	178	108	719	281	171
Rep. Dominicana	49	44	54	88	80	97
Ecuador	304	56	371	323	60	395
El Salvador	-	-	126	-	-	139
France	583	31	60	749	40	76
Guatemala	58	29	81	92	46	128
Guyana	-	-	-	-	-	-
Honduras	63	20	37	106	33	62
India	861	48	-	-	-	-
Italia	868	73	170	988	84	193
Jamaica	-	-	-	-	-	-
Kenia	-	-	-	-	-	-
México	1.535	57	326	1.877	69	398
Marrueco	1.223	52	81	1.395	60	92
Países Bajos	624	41	102	875	58	142
Nicaragua	26	9	15	46	16	27
Panamá	257	96	45	353	132	62
Paraguay	303	61	476	501	101	787
Perú	884	63	131	1.161	82	172
Portugal	776	49	148	903	57	172
Spain	919	68	151	1.219	90	201
Trinidad y Tobago	262	23	17	390	34	26
Estados Unidos	1.856	135	-	2.187	159	-
Uruguay	100	123	177	152	186	269
MEDIA	721	110	145	925	149	192

Graph 15. Individual income taxpayers per employee



Graph 16. Corporate income tax per employee



Graph 17. VAT Taxpayers per employee

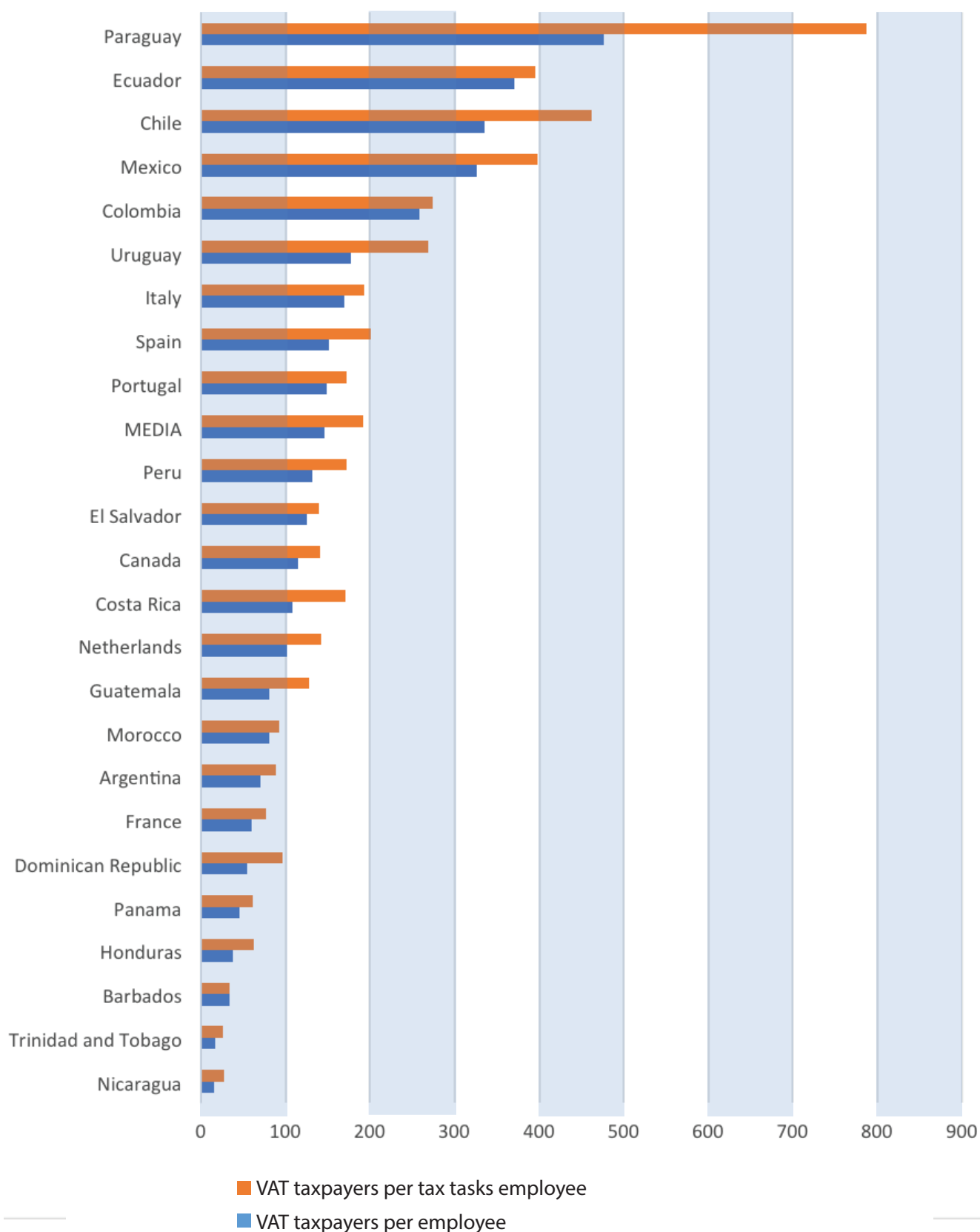


Table 5 summarizes the different perspectives analyzed in relation to the potential workload -population or registered and active taxpayers- of the tax administrations. The same table reflects the situation of each administration with respect to the average in terms of index (mean = 100), so that the negative figures indicate the percentage in which the entity has less personal than the average, whereas the positives would indicate a bigger staff.

Thus, for example, the employees of the Angolan administration would have a 199.2% more citizens than average, 111.2% more personal income taxpayers and 56.9% less corporate income Taxpayers. This type of analysis allows analyzing in a better way the personnel dimension of each administration. Brazil, for example, would be clearly found with a greater workload than the average whatever dimension is analyzed, while the data would indicate the opposite for Argentina, Dominican Republic, France, Netherlands, Nicaragua, Panama or Trinidad and Tobago.

For the other administrations, the indicators that show a situation above the average or below don't imply that there is a sub-endowment or over-endowment in a particular tax because the staff is not divided by tax figures. Their only purpose is to put in relation the total of the administrations' staffs with different dimensions of their potential workloads.

Table 5 **Taxpayers/Personnel**
Situation compared to the average (=100)
Negative= less personnel/positive= more personnel

Countries	Population per employee	Personal Income tax taxpayers per employee	Corporate income tax per employee	VAT taxpayers per employee
Angola	-199,2	-111,2	56,9	
Argentina	39,5	76,4	79,4	51,5
Barbados	82,3			76,7
Bolivia	-28,8			
Brazil	-120,7	-115,6	-723,2	
Canada	78,4	-26,9	12,8	20,8
Chile	24,9	-183,0	-284,7	-131,0
Colombia	-122,8	26,2	0,7	-77,7
Costa Rica	0,5	36,9	-61,5	25,5
Dominican Rep.	21,8	93,2	59,8	62,9
Ecuador	-26,9	57,9	48,8	-155,3
Salvador	-22,9			13,6
France	79,3	19,1	71,4	59,0
Guatemala	-0,6	91,9	73,7	44,2
Guyana				
Honduras	-18,1	91,2	82,2	74,4
India	-243,2	-19,5	56,5	
Italy	62,8	-20,4	33,3	-16,8
Jamaica	73,8			
Kenya				
Mexico	6,2	-113,0	48,5	-124,0
Morocco	-40,5	-69,7	52,5	44,2
Netherlands	80,5	13,4	62,5	30,1
Nicaragua	24,8	96,4	91,5	89,7
Panama	0,5	64,3	12,5	69,1
Paraguay	-45,2	58,0	44,4	-227,3
Peru	14,6	-22,6	43,1	9,9
Portugal	79,0	-7,7	55,1	-1,7
Spain	57,5	-27,5	38,2	-4,3
Trinidad and Tobago	73,0	63,6	79,2	88,2
United States	20,4	-157,5	-22,4	
Uruguay	48,7	86,1	-11,3	-21,8

In relation to the personnel, the last dimension that we are going to address in this document is related to their functions. Table 6 and Graph 18 summarize the tax administrations' responses.

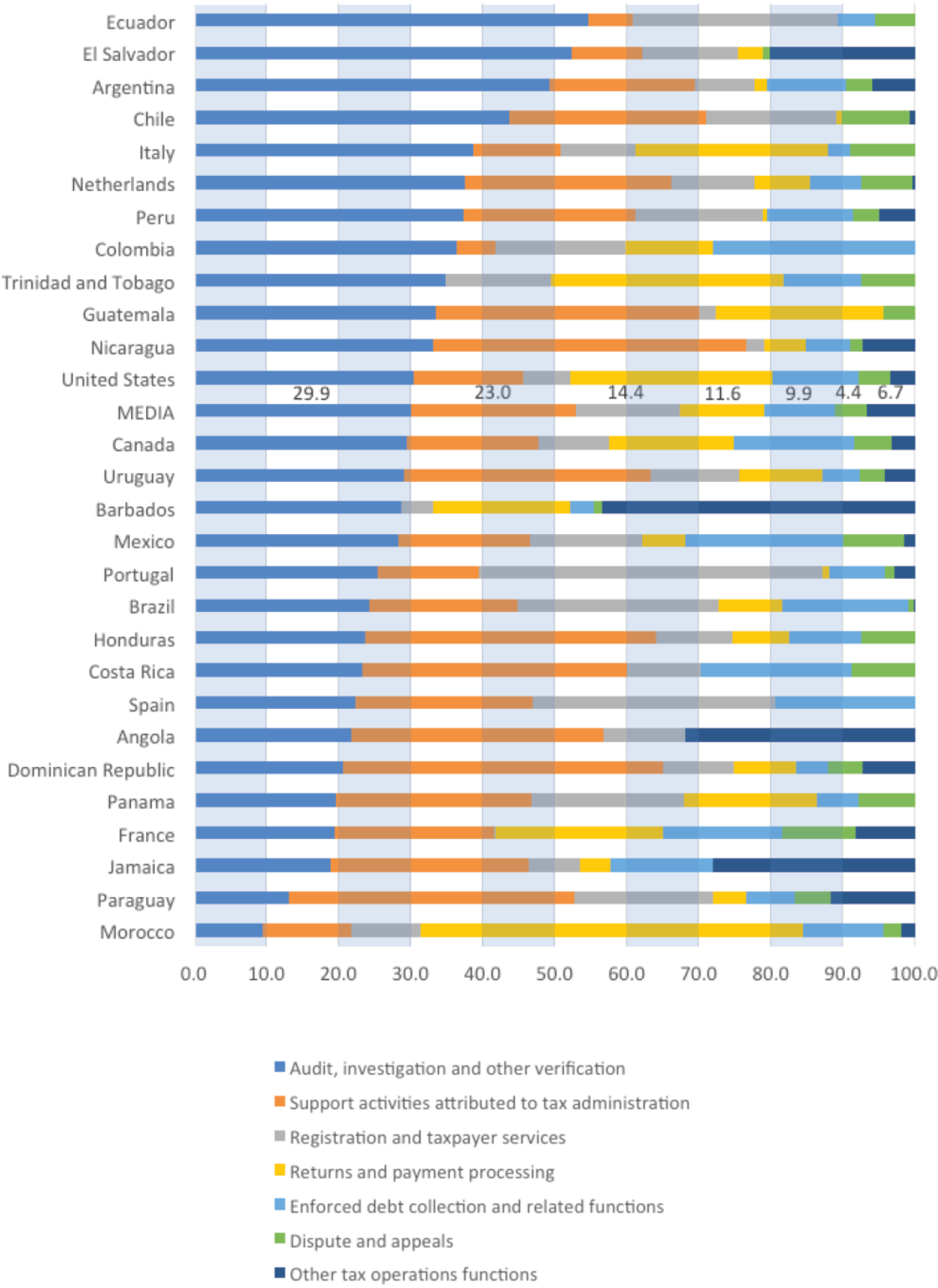
In average, the main function are auditing, investigation and other verifications, occupying 30% of the employees, followed by the tasks of support, 23%, registration and attention to the taxpayer, 14%, returns and payments, 11%, enforced collection, 10%, resolution of conflicts, 4%, and others, 6%.

However, we must be aware that these averages are very unrepresentative and that the heterogeneity in the responses is enormous -either because the internal organization of the tax administrations personnel by functions is very varied or because the question is very difficult to answer without ambiguity-. In technical terms, this heterogeneity is reflected in the high values of the typical standard deviation and, logically, value of the variation coefficient. In any case, the answers by country can be of great relevance to understand the different models of tax agency and their relations with the taxpayers.

Table 6.

Countries	Audit, investigation and other verification	Support activities atributed to the tax administration	Registration and taxpayers services	Returns and payment	Enforced debt collection and related functions	Dispute and appeals	Other tax operations functions
Angola	21,7	35,0	11,3	0,0	0,0	0,0	32,0
Argentina	49,3	20,2	8,3	1,7	10,8	3,7	6,0
Barbados	28,8	0,0	4,4	19,1	3,1	1,3	43,4
Brazil	24,3	20,5	27,9	8,8	17,5	0,8	0,2
Canada	29,4	18,2	9,9	17,3	16,7	5,2	3,3
Chile	43,6	27,3	18,2	0,7	0,0	9,4	0,7
Colombia	36,3	5,5	18,1	12,0	28,2	0,0	0,0
Costa Rica	23,2	36,7	10,3	0,0	20,9	8,8	0,0
Dominica Rep.	20,6	44,4	10,0	8,6	4,3	4,8	7,4
Ecuador	54,6	6,1	28,6	0,0	5,3	5,5	0,0
Salvador	52,4	9,7	13,4	3,3	0,0	1,0	20,3
France	19,4	22,1	0,2	23,3	16,6	10,2	8,2
Guatemala	33,5	36,5	2,3	23,2	0,0	4,5	0,0
Honduras	23,6	40,5	10,5	7,8	10,1	7,4	0,0
Italy	38,7	12,1	10,3	26,8	3,1	9,0	0,0
Jamaica	18,9	27,5	7,1	4,3	14,2	0,0	28,1
Mexico	28,3	18,3	15,6	5,8	22,1	8,4	1,6
Morocco	9,5	12,3	9,6	53,1	11,2	2,4	2,0
Netherlands	37,6	28,7	11,5	7,8	7,1	7,1	0,3
Nicaragua	33,1	43,6	2,4	5,8	6,2	1,6	7,4
Panama	19,5	27,2	21,2	18,4	5,9	7,8	0,0
Paraguay	13,1	39,6	19,3	4,5	6,8	5,0	11,8
Peru	37,3	23,9	17,8	0,6	11,8	3,8	4,9
Portugal	25,5	14,0	47,7	0,9	7,7	1,4	2,9
Spain	22,3	24,6	33,6	0,0	19,5	0,0	0,0
Trinidad and Tobago	34,9	0,0	14,6	32,4	10,6	7,6	0,0
United States	30,5	15,2	6,5	28,1	12,0	4,4	3,4
Uruguay	29,0	34,3	12,4	11,4	5,2	3,5	4,2
MEDIA	29,9	23,0	14,4	11,6	9,9	4,4	6,7
Standard Var.	10,94	12,62	10,09	12,45	7,29	3,23	10,82
Coeff Var.	36,52	54,88	70,14	107,10	73,70	72,59	161,13

Graph 18. Tax Administration Staff by Function (%)



3. CUSTOMS ADMINISTRATIONS

To conclude this first working paper on the analysis of the results obtained with ISORA, we can analyze the data for the Customs Administration for those administrations of the countries adhering to CIAT that have an integrated structure.

Table 7 shows their basic characteristics, compared with those previously analyzed for the internal tax administration of these same countries.

Table 7. Customs Administration-budget, personnel and collection

Countries	Costs/ Collection	Customs /Tax Collection	Customs/ Tax Main Activity Staff	Customs/ Tax-Total Staff	Customs/ Tax- Ordinary Budget	Collection/ GDP	Budget/ GDP
Angola	-	36,4	66,6	66,6	-	2,7	0,45
Argentina	0,9	30,3	38,6	42,6	55,1	4,5	0,04
Brazil	1,6	7,9	20,8	20,9	25,6	0,9	0,02
Colombia	1,9	21,3	62,7	55,5	62,4	2,6	0,05
Guatemala	0,8	45,8	36,2	57,0	15,5	3,1	0,03
Guyana	-	68,7	-	-	-	9,5	-
Honduras	0,5	54,5	39,1	46,2	29,8	6,9	0,04
Kenia	-	33,5	-	-	-	5,0	-
Mexico	0,4	38,7	39,8	41,1	43,6	3,7	0,02
Netherlands	3,6	12,5	33,0	36,8	33,7	2,2	0,08
Peru	2,7	34,9	53,3	50,5	68,3	3,9	0,11
Portugal	3,8	4,0	13,3	13,0	12,4	0,9	0,04
Spain	-	8,5	17,0	17,7	-	1,3	-
AVERAGE	1,8	30,5	38,2	40,7	38,5	3,6	0,09

For the countries from which we have data, **the customs' cost/collection ratio is usually clearly higher than for internal taxes (with the exception of Honduras and Mexico), with an average of 1.8 versus 1 per 100 units of collection, probably reflecting the fact that Customs have other functions of control that are relevant and distinct from the collection goals only.**

In average, the collection obtained in customs is equivalent to 30% of the one obtained in internal taxes (with minimums of 4% in Portugal or 8.5% in Spain for its membership to the European Union; compared to maximum of 68, 54 or 45 percent in Guyana, Honduras or Guatemala, countries with a strong dependence on imports), **while their budget and staff amount to approximately 40% of those dedicated to the taxes not collected at the border.**

Globally, the collected revenue supposes an average of 3.6% of GDP, compared to 13.3% of internal taxes, with a current expenditure budget equivalent to 0.09% of GDP.

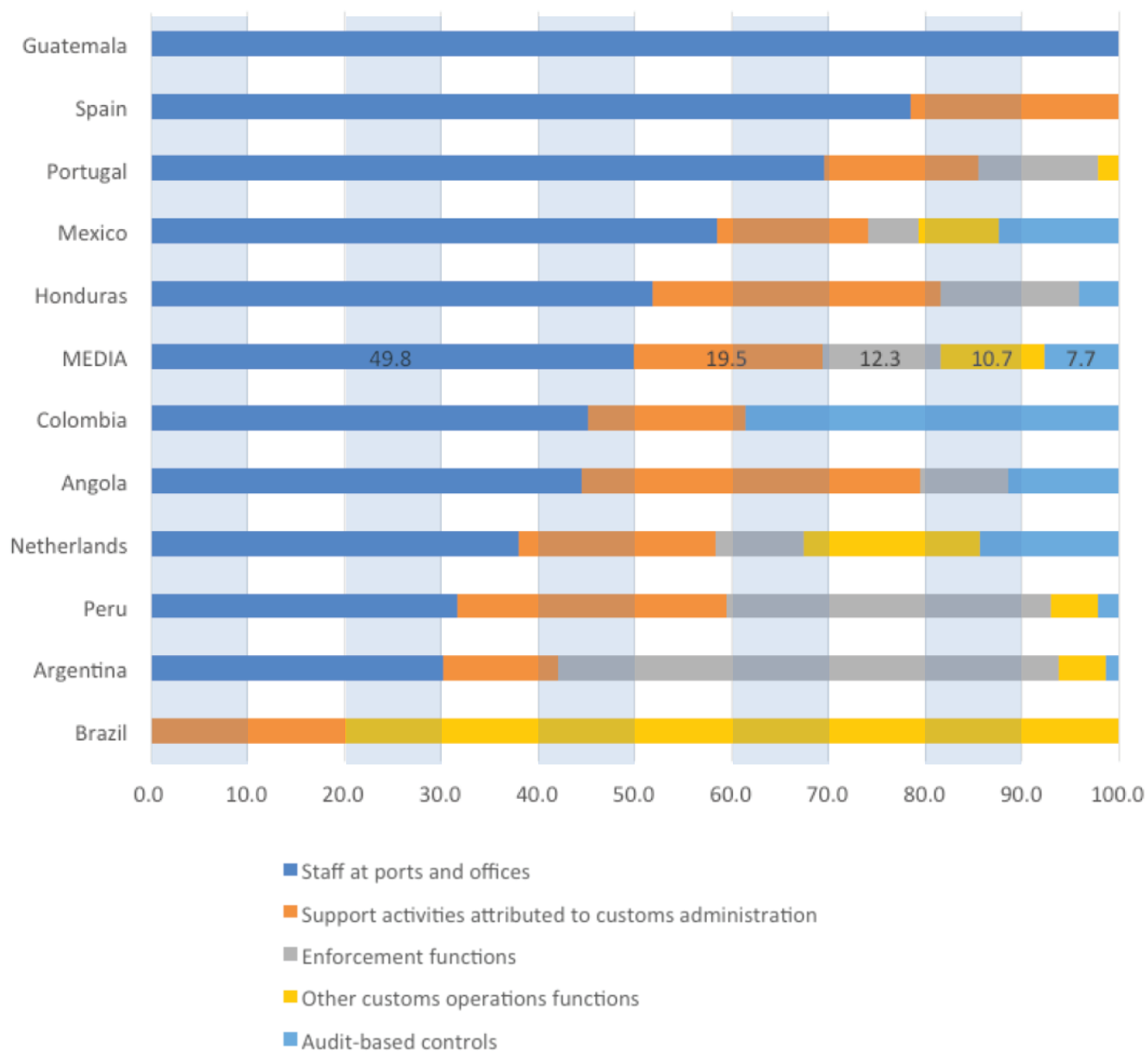
Finally, table 8 and Graph 19 show the attribution of functions to the customs personnel.

Table 8.

Countries	Staff at ports and offices	Support activities attributed to customs administration	Enforcement functions	Other customs operations functions	Audit-based controls
Angola	44,53	34,98	9,07	0	11,42
Argentina	30,16	11,97	51,6	4,86	1,41
Brazil	0	20,2	0	79,8	0
Colombia	45,2	16,23	0	0	38,57
Guatemala	100	0	0	0	0
Honduras	51,78	29,78	14,38	0	4,06
Mexico	58,57	15,62	5,05	8,43	12,33
Netherlands	38,03	20,33	9,13	18,1	14,41
Peru	31,73	27,83	33,45	4,9	2,08
Portugal	69,53	16	12,33	2,14	0
Spain	78,5	21,5	0	0	0
MEDIA	49,82	19,49	12,27	10,75	7,66
Standard deviation	28,09	10,18	15,31	21,71	10,83
Coefficient Variation	56,38	52,21	124,73	201,96	141,41

On average, 50 per cent of staff would be allocated to checkpoints and offices, 20 per cent to tasks of support, 12 per cent to executive work, 7 per cent to audit work and 10 to other customs duties. Again, as in the case of internal tax administration, the functional classification of the staff shows a high heterogeneity.

Graph 19. Customs Administration Staff by Function (%)



4. FINAL COMMENTS

In our future working documents, we will continue analyzing the results of this first edition of the ISORA survey in relation to the characteristics of the Tax Administrations of CIAT countries.

These studies complement the series of synthetic analyses from CIAT that we want to offer, as presentation of the collection, aliquots and tax expenditures databases updates available in CIATData and as support to the works of the Study Areas of the different administrations. We hope that this task will continue to contribute to the progress of the tax administration and its role in improving efficiency and equity in the application of tax policies.

Likewise, we encourage the analysts of the Tax Administrations of the region to send their works and collaborations for their possible publication in the CIAT/AEAT/IEF Tax Administration Review, to the participation in the Essays Contest and to follow the specialized CIATBlog⁴.

4 More information at www.ciat.org

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