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Public Sectors in the Americas: How big are they?

Mauricio Carrizosa

This note provides selected measurements of public sector size for the countries and territories of the Americas and discusses the resulting differences across countries and territories and across the different measurements of size. The key conclusions are that public sector sizes differ considerably across countries and territories, that there are differences in the public sector size ranking of countries and territories depending on which measurement is looked at, and that there is a wide variety of reasons that may account for or explain why a given country has a large or a small public sector.

The size of the public sector in a given country is a matter of considerable concern from the economic performance perspective. Within the public sector, a government takes up resources by taxing economies in one way or another and provides public goods and services. Taxation often undermines economic performance by changing incentives in the wrong direction (say by encouraging too much leisure). Expenditure may improve performance by, for example, improving property rights. It may also undermine performance by diverting resources from better uses.

In addition to government units, the public sector includes public corporations. The impact of the public sector on economic performance is correspondingly broader than that of government. To the efficiency effects of taxes and expenditures we must add the efficiency effects of public financial and non-financial enterprises.

Several measures of the public sector or of its components are available. These comprise measures of revenues, expenditures, employment, and institutions. The most widely used measure of government size is general government consumption, defined as the sum of general government expenditures on wages, goods, and services. It is a measure of the cost of providing government services. Table 1 ranks the 50 countries and territories in the Americas by the ratio of general government consumption to GDP (Column 2). Territories are included in order to provide a wider variety of experience, as financial dependence on higher-level governments is predicted to raise public sector sizes in the dependent governments.

General government consumption ranges from 6 percent of GDP in Haiti and Guatemala to 110% of GDP in Falklands-Malvinas. Even if the latter's extreme value is discarded, the highest (French-Guiana) is still ten times higher than Haiti. Not surprisingly, if territories are excluded, the highest level of general government consumption is Cuba's, at 38% of GDP. General government consumption in more than half of all cases (28 of the 50) is within the 10%-20% of GDP range. Government consumption in territories tends to be relatively higher, exceeding 35 percent of GDP in seven of the fourteen territories.

Differences in government consumption are highlighted when expressed in per capita terms. The ratio of government consumption to GDP is a relative measure that abstracts from the absolute level of the country's per-capita GDP. The corresponding per capita measure is obtained by (a) expressing general government consumption in per-capita terms after (b) converting general government consumption to international (purchasing power parity, PPP) dollars. The resulting measure (Column 3 of Table 1) vividly shows the enormous differences in the per capita cost of public service attention, from $110 in Haiti to $13.795 in Greenland. The country rankings change considerably, with richer countries and territories having larger per-capita government consumption levels.

The sum of general government consumption and public investment, expressed as a percentage of GDP (Col-

umn 4 of Table 1), provides a measure of public sector size from the perspective of final aggregate demand. Because it excludes public expenditures on transfers, public sector final demand is an indicator of public sector size that is tailored to assess the potential macroeconomic effects of public expenditure. In comparison with government consumption, it is likely to be more unstable because it includes public sector investment. The shares of public sector final demand in GDP suggest that in most countries final public expenditure is an important policy tool. In half of the countries or territories in the Americas, the share of final public expenditure in GDP exceeds that in the USA (22%), where public expenditure is considered a central tool of macroeconomic management.

Rankings based on public sector final demand differ somewhat from those based on government consumption. Montserrat and Guyana are noteworthy cases of very large investment programs, exceeding 20% of GDP. In the first, public investment is driven by UK-funded efforts at reconstruction from the devastation caused by the eruption of the Soufriere Hills volcano that began in 1995. In Guyana, public investment is driven by government efforts to restructure the economy, particularly the sugar sector. At the other end of the spectrum, public investment in Argentina, Aruba, the Netherlands Antilles, and Peru was less than 2% of GDP in the year of reference. Public investment of course may change sharply from year to year, as it is one of the few expenditure items that governments can change easily in response to changing needs and resources.

Adding net lending, interest on the public debt, and general government transfers to the private sector (e.g., pension benefits) to consumption and investment provides a measure of total public sector expenditure (Column 5 of Table 1). Total public expenditure is roughly what governments must finance by getting grants or levying taxes, including future taxes (borrowing) and the implicit 100% taxation of state-owned enterprises (SOEs). Total public sector expenditure exceeds 30% of GDP in more than half of the cases (30), including Brazil and Colombia. The highest levels of public expenditure (as a share of GDP) occur primarily in territories that receive grants from higher-level governments (e.g., Guadeloupe from the French government).

There are very large gaps in many countries between total public expenditure and total final public sector demand. The difference reflects the burden of debt and pension benefits. As a percent of GDP, interest and transfers tend to be higher in small countries (as high as 24% of GDP in one island). Including the overall burden of debt and pensions alters a few of the rankings considerably as compared with the consumption measure (e.g., Jamaica, one of the highly indebted countries, ranks 24 instead of 38 and Colombia ranks 31 instead of 40).

The measure of total public sector expenditure will not fully capture the size of the public sector from a production perspective because general government consumption includes wages only to general government employees. ***A broader measure is the ratio of total public sector employment to the labor force (Column 6 of Table 1)***. It is not easy to obtain homogenous data for this measure, although the increasing availability of household and labor market surveys has made it less difficult. Under this measure, Haiti's remains the smallest public sector (1.6%) and Cuba's is the largest (84%). In 30 of the 50 countries or territories in the Americas public employment is within 5%-15% of the total labor force.

In contrast to previous indicators, the employment measure is based on physical units (employees), not on monetary units. ***When the public sector is measured from the production perspective, rankings change, some times considerably***. For example, Argentina, Chile, and Mexico rank similarly in terms of government consumption; yet Chile's public employment is a much smaller share of the labor force than Argentina's or Mexico's. Colombia's government consumption is larger than Costa Rica's; yet Colombia's public employment share is much lower than Costa Rica's. These differences in ranking may reflect differences in the number and size of public enterprises, in the "labor intensity" of government, in the relative average wage of public sector employees or in errors of observation.

What explains differences in public sector size across countries? ***A myriad reasons account for these differences***. These include differences in relative public sector wages, debt levels, the size of the bureaucracy, the size of the elderly population receiving pension benefits, and so on and so forth. For example, the size of the public debt accounts for more of Jamaica's public sector size than for Puerto Rico's similarly sized total public sector expenditures.

Fundamentally, however, public sector size results from a mix of political and economic factors. Tradi-

tional "demand" factors that have been advanced to explain the growth of the public sector include GDP growth ("Wagner's Law, the hypothesis that Government goods and services are income-elastic), population (to reflect possible scale economies in public sector provision) and changes in the relative price (cost) of its goods and services. Other, less traditional variables are also invoked, including the population's age structure (e.g., older populations require more social security), informality (which raises the cost of collecting taxes), openness (which raises the demand for income security or may lower tax/tariff collection), labor intensity ("Baumol's disease", whereby relative labor intensity in Government raises government size by constraining government productivity growth), income inequality (which triggers more redistribution through the public sector), and transfer revenues (the "flypaper" effect that transfers, which are politically cheaper than taxes, encourage spending). Ideology (with governments that lean towards the left being relatively more inclined to public provision of goods and services) and veto power may also play a role.

Short of a full panel econometric exercise, we can only highlight some empirical regularities or illustrations linked to various hypotheses. A look at Table 1 suggests some. First, plotting per-capita government consumption against per-capita income shows that as we move to richer countries, government consumption rises more than proportionately, with an elasticity of 1.2. This argues in favor of Wagner's Law that the "demand" for government services is income elastic. Second, most of the large public sectors (e.g., those with government consumption greater than or equal to 20% of GDP) are in small countries or territories. This suggests that economies of scale in delivering public services play a role. Third, financially dependent territories (more often than not also small), such as the French departements also tend to have larger public sectors. This points to the possible role of grants in encouraging large public sectors, the so-called flypaper effect. In contrast, most UK territories (Montserrat excluded) receive little help and have accordingly smaller public sectors. Fouth, in Cuba and indeed in some other countries in past historical periods (e.g., Guyana until the 1980s, Nicaragua during the 1980s), weak veto power may help explain their large government sizes at the time. However, weak veto power in Chile after 1974 actually helped explain the opposite - a decline in public sector size -, pointing to the interaction of veto power with ideology or the policy stance. Fifth, public sector size in countries such as Bolivia, Peru and Mexico may be constrained by large degrees of informality, which partly offsets their natural-resource-based tax buoyancy. Sixth, weak institutional or absorptive capacity may well limit public expenditure in countries like Haiti. Of course, in any given country, several factors are at work simultaneously or at one time or another.

The net result of the factors outlined above may well be public sector sizes that are not optimal (i.e., that do not maximize welfare). Indeed, cross-country econometric evidence often suggests that increases in the share of general government consumption reduce growth. Under the Barro (1990) model, this implies that government consumption levels are larger than those that would maximize growth. Under certain assumptions, the size at which growth is maximized can be regarded as "optimal" (i.e., as maximizing household welfare).

The wide range of government sizes shown by the data may be consistent with the view that the optimal size of government is not unique. Presumably the optimal size of a government with poor governance or effectiveness in the delivery of public sector goods and services would be smaller than that of a government with good institutional capacity. Nevertheless, while the data collected in this note shows a wide range of sizes, most tend toward a central range: whether optimal or not, countries tend to choose government consumption levels between 10% and 20% of GDP and public employment between 5% and 15% of the labor force.

References

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About the Author

Mauricio Carrizosa is Sector Manager of the Economic Policy group for Latin America and the Caribbean at the World Bank. His e-mail address is Mcarrizosa@worldbank.org.

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Table 1: Public Sector Size in the Americas (2005)
Percent of GDP except for Columns (3) and (6)

	Country/Territory (1)	Share of Government Consumption in GDP (2)	Government Consumption PPP$ Per Capita (3)	Government Consumption plus Investment (4)	Total Public Expenditure (5)	Share of Public Sector in Labor Force (6)
1	Falklands-Malvinas	110.1%	21566	126.2%	150.0%	90.2%
2	French Guiana (France)	59.6%	4843	68.1%	81.0%	17.0%
3	Greenland (Netherlands)	51.1%	13795	57.6%	73.1%	43.3%
4	Montserrat (UK)	49.9%	3372	72.0%	90.3%	83.6%
5	Martinique (France)	38.1%	5855	42.7%	60.0%	11.8%
6	Guadeloupe (France)	38.0%	2990	42.8%	62.3%	12.0%
7	Cuba	38.0%	1256	47.6%	59.6%	84.2%
8	Virgin Islands (US)	35.2%	4833	40.7%	47.2%	24.1%
9	Suriname	31.0%	1436	35.5%	44.7%	37.4%
10	Aruba (Netherlands)	26.6%	5982	28.2%	36.2%	12.9%
11	Canada	23.7%	7792	27.7%	36.7%	16.9%
12	St. Kitts and Nevis	23.3%	3368	29.9%	43.3%	41.6%
13	St Lucia	23.0%	1466	31.4%	38.0%	12.1%
14	Antigua and Barbuda	22.0%	2714	27.8%	44.3%	32.0%
15	Guyana	21.6%	975	35.5%	57.7%	9.1%
16	Barbados	21.0%	3771	25.1%	42.0%	18.1%
17	Brazil	20.1%	1940	23.1%	39.0%	10.4%
18	St. Vincent and the Grenadines	20.0%	1370	33.2%	39.7%	11.6%
19	Dominica	19.0%	1142	27.8%	40.0%	21.2%
20	USA	19.0%	7952	21.6%	36.4%	13.9%
21	Netherlands Antilles (Netherlands)	18.9%	2899	19.6%	31.3%	8.3%
22	Turks and Caicos Islands (UK)	17.1%	1732	23.6%	31.5%	11.0%
23	Grenada	17.0%	1398	32.8%	38.9%	9.4%
24	Virgin Islands (UK)	16.8%	4091	20.7%	24.5%	38.0%
25	Trinidad and Tobago	15.0%	2064	22.2%	34.2%	23.6%
26	Bahamas	15.0%	2645	18.5%	23.1%	18.8%
27	Cayman Islands (UK)	15.0%	6463	17.5%	22.4%	7.1%
28	Anguilla (UK)	14.7%	1267	25.5%	35.0%	25.0%
29	Honduras	14.0%	390	20.1%	29.8%	5.6%
30	Panamá	14.0%	1104	16.5%	25.2%	11.3%
31	Belice	13.9%	1057	18.0%	28.0%	11.8%
32	Venezuela	13.0%	849	22.0%	31.4%	9.4%
33	Ecuador	12.5%	534	18.2%	23.8%	6.5%
34	Puerto Rico (USA)	12.0%	2225	17.8%	33.2%	23.0%
35	Chile	12.0%	1516	15.4%	27.4%	6.2%
36	Mexico	12.0%	1225	14.8%	23.3%	11.1%
37	Argentina	11.9%	1713	13.9%	22.0%	11.2%
38	Jamaica	11.0%	484	16.0%	35.5%	10.5%
39	Uruguay	11.0%	1118	13.3%	33.0%	14.5%
40	Colombia	11.0%	855	16.8%	31.0%	4.9%
41	Nicaragua	11.0%	405	17.8%	27.0%	6.9%
42	Bermuda (UK)	11.0%	6568	14.4%	21.3%	10.6%
43	El Salvador	11.0%	583	13.3%	19.4%	7.3%
44	Paraguay	10.9%	541	14.8%	22.3%	8.3%
45	Bolivia	10.8%	308	16.5%	33.9%	6.3%
46	Perú	10.0%	623	11.7%	16.8%	6.0%
47	Dominican Republic	9.8%	741	14.5%	19.2%	9.6%
48	Costa Rica	9.0%	899	12.4%	20.5%	12.9%
49	Haiti	6.0%	110	10.5%	13.7%	1.6%
50	Guatemala	6.0%	268	8.2%	12.8%	4.7%

Sources: Official Government websites, World Bank Public Expenditure Reviews and Purchasing Power Parity (PPP) GDP statistics, IMF Stand-by reports, CIA World Factbook, Household Surveys, Miscellaneous country and press reports, and own estimates.

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