INTER-AMERICAN DEVELOPMENT BANK

PUBLIC MANAGEMENT AND TRANSPARENCY NETWORK

CROSS-COUNTRY COMPARISONS OF PUBLIC EMPLOYMENT AND PAY
OF 26 LATIN AMERICAN AND CARIBBEAN COUNTRIES

W O R K I N G   P A P E R

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TABLE OF CONTENTS

1. INTRODUCTION

The desirability of assessing the civil service and civil service reform on a quantitative, as well as qualitative, basis has been long recognized. Unfortunately, existing studies tell us much about the characteristics of civil service systems in qualitative terms, but rarely provide reliable statistical data on public employment that allows for quantitative measurement and cross-national comparison.[1]

As a result, the Inter-American Development Bank (IDB), in cooperation with borrowing member countries, has set the development and enhancement of information on government employment as one of the basic lines of action in the area of civil service reform (IDB, 2001a). The Regional Policy Dialogue's Questionnaire on Civil Service Reform, whose results are examined in the Dialogue papers, "The Civil Service in Latin America and the Caribbean: Situation and Future Challenges" (Oszlak, 2001) and "The Civil Service in Latin America and the Caribbean: The Caribbean Perspective" (Draper, 2001), reflects this objective, as does the data collection effort behind the production of the Civil Service Profiles on which this paper is based.

As discussed in the Bank's position paper on state modernization and civil service reform (IDB, 2001a), the civil service in the modern state contributes to strengthening democracy and the rule of law and is necessary for the efficient provision of public goods and services. The reform of the civil service is an integral part of state modernization, which, in turn, is key to sustainable economic development.[2] To be effective, civil service reform should be based on an objective, well-founded diagnosis, for which fairly comprehensive and reliable information on the structure, pay, and scope of public employment is necessary.

On the basis of available data, this paper compares public sector employment and pay in Latin America and the Caribbean (LAC). It highlights the methodological challenges of gathering and making valid comparisons on the basis of such data. Within these limitations, therefore, the paper compares the countries of the region in respect to the size of the public sector, the magnitude of public sector wages, and trends in public employment and pay, and it examines some hypotheses regarding the determinants of public employment and pay and of effective, clean government.

2. PAST RESEARCH ON PUBLIC EMPLOYMENT STATISTICS

Twenty years ago, the paucity of data on public employment motivated a study by Peter Heller and Alan Tait (1983), which provided what at the time was the most

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[1] A recent exception to this is Rauch and Evans (2000). They offer an excellent discussion on the relationship of bureaucratic structure and bureaucratic performance using variables constructed from their dataset on key structural features of effective state bureaucracies in 35 less developed countries. See also the companion paper, Evans and Rauch (1999).

[2] For empirical studies on the relationship between governance and development, see Chong and Calderon (1997, 1998, and 2000), Dollar and Pritchett (1998), Evans and Rauch (1999), Kaufmann, Kraay, and Zoido-Lobatón (1999), Knack and Anderson (1999), Knack and Keefer (1997), Rauch and Evans (2000), Rodrik (1997), and the *World Development Report: The State in a Changing World* (1997).

comprehensive assembly of international statistics on public sector employment and wages. Though Heller and Tait urged governments and international agencies to invest in their capacities to compile statistical data on public employment and wages, the dearth of research and readily available information remains a key obstacle to sound analysis in this area.

The work of Schiavo-Campo, et al. (1997a, 1997b) of the World Bank answers some of Heller and Tait's concerns. Their companion papers, prepared partly as background to the World Bank's *World Development Report 1997: The State in a Changing World*, present the findings of a survey of almost 100 countries and provide the statistical data necessary for international comparisons of government employment and pay in the early 1990s. These data were made available recently on the World Bank web site, with updates for some countries.[3]

The International Labor Organization carried out a survey on public employment in 1998 to fulfill the recommendation of the final report of the organization's 1995 joint meeting, "The Effect of Structural Adjustment in Public Services." The report proposed that the ILO "realize statistics on the public sector which are comparable and useful at the national level for countries wishing to develop their own capacity for analyzing the information and applying it to national needs (Hammouya, 1999, p. 1). The ILO received replies from over 80 of the 216 countries to which the surveys were sent, including replies from 11 LAC countries. The results are contained in the ILO's Database on Public Sector Employment Statistics (DBPSE).

For the LAC region, the Latin American Center for Development Administration (CLAD) offers data that traces the evolution of the size of the public sector (primarily in terms of number of employees) through the 1980s and '90s in selected Latin American countries. CLAD data for the 1990s are limited to ten Latin American countries, Spain, and Portugal, and in most cases data are available only for particular years. Still, CLAD's attention to data collection in this area reflects the growing demand in the region for public employment statistics.

Illustrating the potential of multilateral cooperation in civil service data collection, the Organization for Economic Cooperation and Development (OECD) has developed a relatively reliable data set on government employment and pay, the Public Sector Pay and Employment (PSPE) Database of the organization's Public Management Program (PUMA). The database, updated annually since 1993 on the basis of questionnaire responses from OECD member-country experts, comprises public sector data on expenditures, employment, and wages, in most cases, broken down by level and sector of government. It also offers serial data on, for example, pay differentials in the public and private sectors, pay dispersion throughout the Civil Service, and trends in women's leadership in the Civil Service.

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[3] See http://www1.worldbank.org/publicsector/civilservice/development.htm for the World Bank data set, compiled by Amit Mukherjee and Giulio de Tommaso. For most LAC countries the data remains incomplete.

3. METHODOLOGICAL CONCERNS

While thus far the PSPE Database sets the standard for cross-national databases of this kind, OECD/PUMA admits persistent problems with the reliability and comparability of the data, due mainly to the diverse reporting criteria used by member countries (OECD, 2000, p. 7.) Research efforts attempted to date have shown that without the existence of a systematic framework for the collection of public employment statistics,[4] data assembled primarily at the national level tend to lack high levels of reliability and comparability.

The methodological difficulties encountered by OECD/PUMA are not encouraging for research efforts taking place within, or depending on data from, less-developed countries, where data are usually less accessible and data collection, less transparent. CLAD's efforts, for example, are hindered not only by comparability problems, due to, *inter alia*, different reporting methods across countries. They also are held back by the sheer absence of quantitative information on public employment and pay in many countries in the region.

Although this study seeks to advance the level and reliability of quantitative data available on public employment in LAC countries, the ongoing lack of reliable and comparable information can be understood as resulting from a series of methodological and technical challenges:[5]

- Data may not be compiled in many countries because of the weakness of employment and payroll management systems and the lack of coordination across units;

- Organizational structures of government, as well as reporting methods, vary across countries, leading to differences in the way in which data is presented and compiled;

- Comparing public employment in the aggregate is complicated by the different functions countries assign to their governments, and the differences in classifications of personnel, especially teachers, health care workers, seasonal and contractual employees, and military personnel; and

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[4] The creation of a framework for the collection of internationally comparable data on the public sector is a growing concern. See http://unpan1.un.org/intradoc/groups/public/documents/un/unpan000476.pdf for a 2000 report prepared by the United Nations Secretariat, "Public Sector Indicators," which responds to a request by the Group of Experts on the United Nations Programme in Public Administration and Finance (UNPAN) that UNPAN elaborate a conceptual framework for the collection of internationally comparable data. For further discussion, in this case on creating a model for measuring public employment and the difficulties involved, see http://www1.worldbank.org/publicsector/civilservice/data.htm, the World Bank's Administrative and Civil Service Reform's Web site's page on data and diagnostics.

[5] For a detailed discussion of methodological problems see Heller and Tait (1983) and the World Bank's Administrative and Civil Service Reform Web site on Cross-National Data on Government Employment and Wages, http://www1.worldbank.org/publicsector/civilservice/cross.htm.

▪ Data on wage and salary expenditure (from which average wage levels are calculated) may not capture discretionary compensation, especially non-wage benefits, or payments to daily paid workers.

There are other problems associated with these fundamental methodological challenges. For example, in relation to the last, Oszlak (2001) reports civil servants' basic pay accounting for anywhere between less than 50% to more than 80% of total compensation in the LAC region. Because expenditure figures for wages and salaries rarely include non-wage benefits granted to public employees, average wage calculations can underestimate total compensation in some cases by half or more. As a result, comparisons of average wages across countries, or comparisons of the ratio of average public sector wages to average private sector wages, used to measure wage adequacy, can often be misleading.

Thus, some caution is necessary in using such data to examine specific conditions of the civil service in a country. Analysis based on cross-national statistics should be supported by knowledge gained from in-depth, country-specific research. If it is not, erroneous conclusions may be drawn, for example, about whether or not the size of public employment is too high or whether or not public sector wages are at appropriate levels. At the same time, when joined with more detailed, case-specific analysis, cross-national quantitative data is fundamental to formulating sound policies, substantiating and qualifying stakeholders' and reformers' claims, and advancing the debate on public employment related issues in general.

4. CIVIL SERVICES PROFILES

This paper is based on data collected and assembled in Civil Service Profiles (see Appendix) of the 26 IDB borrowing-member countries (see Table 1). Each Profile provides data for the years 1995 and 1999 (or closest years available), organized into the following general categories:

I.   **Socioeconomic Context**
II.   **Public Opinion Toward Public Administration**
III.   **National Labor Statistics**
IV.   **Size of Government**
V.   **Government Personnel Costs**
VI.   **Wage Levels of Public Sector Employees**
VII.   **Public Employment Levels**
VIII.   **Civil Service Institutional and Organizational Features.**

As detailed in the Appendix, the information gathered to complete the data set comes from a combination of international and national sources. International sources were used to increase comparability when they were available. Such sources were used for most items under **Socioeconomic Context** (GNP per capita, Human Development Index values, Growth Competitiveness Index values, unemployment rates, literacy rates, school enrollment, life expectancy, social expenditure, and government

revenues); **Public Opinion Toward Public Administration** (public opinion data from *Latinobarometro*); **National Labor Statistics** (population, economically active population); **Size of Government** (government expenditure); and **Government Personnel Costs** (expenditure on wages).

International sources include, among others, the IDB Basic Socioeconomic Data Web site, International Monetary Fund (IMF) *Government Finance Statistics Yearbook* 2000, IMF *International Financial Statistics Yearbook* 2000, CLAD's information network Web site, United Nations Development Programme (UNDP) *Human Development Reports* 1997 and 2000, World Development Indicators on the World Bank Web site, the International Labor Organization (ILO) *Yearbook of Labor Statistics* 2000, and the LABORSTA database on the ILO Web site.

For the **Civil Service Institutional and Organizational Features** information was largely obtained from the Regional Policy Dialogue Questionnaire, "The Civil Service in Latin America and the Caribbean: Situation and Future Challenges" completed by civil service policy makers in the countries of the region.

For the remaining two categories, **Wage Levels of Public Sector Employees** (average public sector wages, average public sector wages in relation to GDP/capita and average private sector wages, etc.) and **Public Employment Levels** (number of employees, percentage change over time, etc.), the primary sources used were national and country-specific. The sources include printed and web-based publications from national central banks, economic and finance ministries, national statistical agencies, civil service reform commissions and secretariats, and country-specific reports from the IMF and World Bank. Web-based sources proved invaluable for some countries, underscoring the potential of computerized personnel management systems and internet-accessible civil service censuses and labor force survey results.

For the construction of the Profiles, maximizing the reliability and comparability of data within the constraints posed by methodological difficulties was paramount.[6] Government revenue, expenditure, and employment data were sought for four levels of government, a tetrad determined in large part by the manner in which international sources, specifically the IMF *Government Finance Statistics Yearbooks*, present wage expenditure data. Box 1, on the next page, describes the four levels, comprising total public sector, general government, consolidated central government, and central government.

For only a small number of countries are data available for all four levels of government. For that reason, some country Profiles present data for one or two levels, others for three or four. When possible, departures from the definitions in Box 1 or specifics on what constitutes individual countries' levels of government are documented in the "Notes" section of the Profiles.

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[6] To support the reliability of data, completed Profiles were sent to country representatives (Regional Policy Dialogue members) for verification before publication.

Box 1. Levels of government

Total Public Sector (TPS): includes general government (below) and public enterprises.

General Government (GG): includes consolidated central government (below) and all units of the subnational authority.

Consolidated Central Government (CCG): includes all units representing the territorial jurisdiction of the central authority throughout a country, i.e. all units covered by budgetary and extrabudgetary accounts *as well as social security* (consistent with data originating from the IMF).

Central Government (CG): includes all units representing the territorial jurisdiction of the central authority throughout a country, i.e. the central executive and legislative administration departments directly dependent on the Head of State or Parliament, together with all other ministries and administrative departments, including autonomous agencies.

Definitions based on information from the IMF *Government Finance Statistics Yearbook*, 2000.

In all but a few cases average wages were calculated by dividing total expenditure on wages at a specific level of government by the total number of employees reported for that level.[7] In all cases, wages were then inflated to 1999 local currency using the consumer price index (CPI) from the IMF *International Financial Statistics Yearbook* 2000 or from a country-specific source. Wages were converted to US dollars (US$) with 1999 exchange rates.

The totals for number of civil servants—a term used in the Profiles to signify public employees in general—include only civilian public employees. Military personnel were subtracted from totals shown on the Profiles;[8] paramilitary and police personnel were *not* subtracted. Calculations for the category, percentage change in civil servants (previous 5 years), include civilian and military personnel and were done on the highest level of government for which data is available, unless noted. Aside from the overall average for the region, averages for the two IDB income group designations, Group 1 and Group 1 are also provided. Group 1 countries as those with a GNP per capita greater than 3,200 US$ 1997, and Group 2 countries as those with a GNP per capita equal to or less than 3,200 US$ 1997 (IDB, 2001b). These regional and group averages include only those countries with data for the given category in consideration.

Table 1 shows the 26 countries covered in the study, ranked in descending order by their 1999 Human Development Index[9] (HDI) value. The table provides contextual information, including countries' Growth Competitiveness Index[10] (GCI) values and rankings, development indicators, Group designations, and abbreviations.

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[7] For the level of central government, this method of calculation tends to inflate average compensation, due to large and variable numbers of local government employees being paid from the central government budget, but not counted as central government employees (Schiavo-Campo, et al., 1997b).
[8] Military personnel were *not* subtracted for the calculation of average wages.
[9] The index is described in the UNDP Human Development Report 2001.
[10] The index is described in the World Economic Forum's (WEF) *Global Competitiveness Report* 2000. See footnote 28 for a summary description of the index.

Table 1. LAC Countries Covered in the Survey

LATIN AMERICA AND THE CARIB.	Country Abbrv.	Group	HDI	Growth Competitiveness Index		GNP per capita	Literacy rate	Life Expect	School Enrollment		Unemplmt. Rate
				Index	Ranking*		(% of adults 15+)		Primary (% net)	Secondary (% net)	% of workforce
			1999	2000	2000	1999 US$	1999	1999	1995	1995	1999
BARBADOS	BRB	1	0.864	..	..	8,630	99.0	76.5	93.5	85.0	10.5
ARGENTINA	ARG	1	0.842	4.11	49	7,600	96.8	73.1	99.9	71.9	14.1
URUGUAY	URY	1	0.828	4.22	46	5,900	97.7	74.1	93.3	80.3	11.3
CHILE	CHL	1	0.825	4.90	27	4,740	95.6	75.1	87.3	80.4	8.9
COSTA RICA	CRI	2	0.821	4.49	35	2,740	95.5	76.8	88.3	40.8	6.0
BAHAMAS	BHS	1	0.820	..	..	14,100	95.7	74.0	94.1	86.6	7.7 (1998)
TRINIDAD AND TOBAGO	TTO	1	0.798	4.40	38	4,390	93.6	74.0	94.6	71.6	13.1
MEXICO	MEX	1	0.790	4.29	42	4,400	91.1	72.3	99.9	63.8	1.7
PANAMA	PAN	2	0.784	3.88	55	3,070	91.7	73.8	89.8	70.1	11.8
BELIZE	BLZ	2	0.776	..	..	2,730	93.1	74.9	99.9	63.2	11.1 (1994)
VENEZUELA	VEN	1	0.765	3.70	62	3,670	92.4	72.6	82.4	46.6	14.9
COLOMBIA	COL	2	0.765	3.68	65	2,250	91.5	70.7	82.5	67.7	20.9
SURINAME	SUR	2	0.758	..	..	1,350	95.0	70.3	89.7	51.3	14.0
BRAZIL	BRA	1	0.750	4.26	44	4,420	85.2	67.0	94.7	63.6	9.6
PERU	PER	2	0.743	3.85	55	2,390	89.7	68.6	91.9	83.5	8.0
JAMAICA	JAM	2	0.738	3.93	52	2,330	86.4	75.0	97.6	69.0	16.0 (1996)
PARAGUAY	PRY	2	0.738	3.01	72	1,580	93.1	69.8	93.3	59.3	8.2
ECUADOR	ECU	2	0.726	3.36	68	1,310	91.0	69.7	99.9	51.0	11.5 (1998)
DOMINICAN REPUBLIC	DOM	2	0.722	4.11	50	1,910	83.2	70.9	87.3	71.2	15.9 (1997)
GUYANA	GUY	2	0.704	..	..	760	98.4	64.8	92.0	74.7	..
EL SALVADOR	SLV	2	0.701	3.84	58	1,900	78.5	69.4	79.7	34.5	7.0
BOLIVIA	BOL	2	0.648	3.42	67	1,010	85.2	61.8	98.0	40.0	4.2 (1996)
NICARAGUA	NIC	2	0.635	3.01	73	430	68.2	68.1	80.0	51.3	10.9
HONDURAS	HND	2	0.634	3.11	70	760	74.0	69.6	91.2	37.1	3.7
GUATEMALA	GTM	2	0.626	3.44	66	1,660	68.1	64.4	73.0	35.7	1.4 (1995)
HAITI	HTI	2	0.467	..	..	460	49.0	54.0	..	..	..
LAC Ave.			0.741	**3.85**		3,327	87.6	70.4	91.0	62.0	10.6
Group 1 Ave.			0.809	**4.27**		6,428	94.1	73.2	93.3	72.2	10.2
Group 2 Ave.			0.705	**3.63**		1,685	84.2	69.0	89.6	56.3	10.9

Sources: World Development Indicators, World Bank web site; UNDP Human Development Reports 1997, 2000, and 2001; LABORSTA database, ILO; IDB Economic and Social Progress in Latin America, Report 2001, The Business of Growth, citing Global Competitiveness Report 2001, World Economic Forum.
Group 1 (GNP per capita > 3,200 US$ 1997); Group 2 (GNP per capita <= 3,200 US$ 1997); Column averages encompass those countries for which data are complete. Averages for unemployment rates do not include data for 1996 or before. The symbol .. indicates that data are not available.
*GCI ranking includes 75 less developed, developing, and developed countries; 20 of them LAC countries.

5. RESULTS: EMPLOYMENT

Table 2 shows civilian public employment (from this point on, public employment) as a percentage of the population for four levels of government: total public sector, general government, consolidated central government, and central government for 1999 or the most recent year for which information is available). Table 3 shows total public employment relative to the economically active population[11] (EAP). The tables also show for what levels of government are data available for individual countries and, accordingly, the make-up of the samples used to calculate averages on each level of government. The key findings for the LAC region, Group 1, and Group 2 in respect to the levels of total public sector, general government, and central government are as follows:

- In LAC countries, total public sector employment currently averages about 4.1% of the population. The level ranges from around 2.0% in Nicaragua, El Salvador, Honduras, and Bolivia to around 9.0% in Suriname and Trinidad and Tobago. These variations indicate that there is no predictable level of public employment within the LAC region. In Group 1, total public sector employment averages about 4.6% of the population. The average for Group 2 is somewhat lower, with total public sector employment accounting for about 3.8% of the population. The variation that exists within the LAC region corresponds to worldwide patterns. For example, in the OECD countries total public sector employment as a percentage of population in the mid- to late '90s ranged from 1.9% in Korea to 13.3% in Denmark (OECD, 2000, p. 5).

- As Table 2 shows, government employment at the level of general government averages about 3.0% of population for the region. Among those countries for which employment data at the level of general government is available, Uruguay, Trinidad and Tobago, Argentina, and Mexico are those with the largest ratio of general government employees to population (5.9%, 5.4%, 4.8%, and 4.3%, respectively). The average for Chile is notably low, at about 1.0%. Despite the low figure for Chile, the average for Group 1 (3.9%) remains higher than the LAC average (3.0%) and significantly higher than the average for Group 2 (2.4%). In the early '90s, the worldwide average for general government employment as a percentage of population stood at 4.7%, suggesting that the scope of public employment in LAC countries is relatively small.   In fact, the World Bank's sample of LAC countries ranked third smallest (with 3.0% in the early '90s) after Africa (2.0%) and Asia (2.6%), while general government employment in the OECD countries averaged about 7.7% of population in the early '90s (Schiavo-Campo, et al., 1997a).

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[11] Economically active population (EAP) comprises all employed and unemployed persons of a certain age distribution, usually either 10 to 65 or 15 to 65. The definition 15 to 65 corresponds to that adopted by the Thirteenth International Conference of Labour Statisticians held in Geneva in 1982. When cited in the secondary sources, the age distribution of the EAP used in the Profiles is noted. ECLAC, which is the main source used in this paper, establishes the age distribution of the economically active population as the population aged 10 to 65.

The ratio of general government employment to population is usually considered a more meaningful measure of the scope of a country's public sector than is the ratio of total public sector employment to population. This is because the latter measure includes the number of public enterprise employees, which is a product of a particular kind of policy choice on the part of governments.

- Central government employment currently accounts for about 2.3% of the population. Countries like Argentina, Brazil, Chile, and Mexico, tend to have a lower percentage of central (or consolidated central) government employment out of population (around 1.0%) than do smaller countries, such as the island countries of the Bahamas or Barbados (5.6% and 9.4%, respectively). This variation reflects in large part the decentralization of government functions in the large, federal states and the centralized, unitary structure of Caribbean, some Central American countries, and some smaller countries of South America. For instance, in addition to the Bahamas and Barbados, Uruguay, Belize, Panama, and Paraguay also have relatively high levels of central government employment measured as a proportion of total population (3.0% or greater). By contrast, Bolivia, Guyana, Peru, Guatemala, Honduras, and Nicaragua have relatively small central government payrolls in proportion to population (2.0% or lower). In most of these cases this is because governmental employment as a whole is relatively low rather than because central government employment is low in comparison to overall government employment.[12] For example, in the case of Bolivia, central government employment accounts for 1.9% of the population, general government employment accounts for 2.2% of the population, and total public sector accounts for 2.3% of the population. A similar pattern emerges in the cases of Peru, Honduras, and Nicaragua (no data on general government or total public sector is available for Guatemala). Guyana is the only exception, with central government employment a relatively small 1.4% of population and total public sector employment accounting for a relatively large 6.8% of the population. Overall for Group 1, central government employment averages about 2.7% of the population. Central government employment in Group 2 accounts for a somewhat lower percentage, about 2.2% of the population. Central government employment as a percentage of population tends to be larger in OECD countries than in Latin American and the Caribbean countries. For example, in the early '90s central government employment (exclusive of health and education employees) as a percentage of population averaged about 1.2% in LAC countries and 1.8% in OECD countries. The figure for the OECD countries was the highest worldwide, while the figure for the LAC sample ranked third highest worldwide behind the

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[12] While data on the level of central government is not available for El Salvador, like its Central American neighbors, El Salvador has a relatively small number of government employees compared to other LAC countries. Available data shows that general government employment accounts for only 1.8% of population and total public sector employment accounts for about 2.1% of population.

OECD and the Middle East and North Africa (1.4%) (Schiavo-Campo, et al., 1997a).

- As Table 3 shows, public employment as a percentage of the economically active population (EAP) reveals nearly the same patterns as does public employment as a share of population. In the region as a whole, total public sector employment as a percentage of EAP averages about 10.1%. Trinidad and Tobago and Suriname are at the high end with percentages of 21.5% and 23.0%, respectively. Other countries with relatively high levels of total public sector employment as a percentage of EAP (over 10.0% of EAP) include Argentina, Mexico, Uruguay, Venezuela, Costa Rica, Guyana, and Panama. In Group 1 total public sector employment accounts for about 10.9% of EAP, while the average in Group 2 is slightly lower at about 9.6%.

- At the level of general government, public employment averages about 7.3% of EAP. Among the countries for which data at the general government level is available, Chile has the lowest level of public employment relative to the EAP (2.6%). The other Group 1 countries have relatively high levels of general government employment as a share of EAP: Argentina (11.4%), Mexico (10.7%), Trinidad and Tobago (13.3%), and Uruguay (13.6%). As a result, the average for Group 1 (about 9.2% of EAP) is comparatively higher than the regional average (7.3%) and the average for Group 2, a relatively low 6.0% of EAP. Jamaica and Peru are exceptions in Group 2, with general government employment accounting for 9.1% and 8.1% of EAP, respectively. Overall, the proportion of general government employment to EAP varies relatively widely throughout Latin American and the Caribbean. Comparing the results from the LAC region with data from outside the region, however, shows the relatively small scope of public employment in the LAC region. For example, in the early 1990s general government employment accounted for about 15.6% of EAP in the OECD countries. In the same period, the average for a sample of 12 Latin American and Caribbean countries was significantly lower at about 7.6%. Averages for the OECD countries of Denmark, Finland, and Norway were all over 20.0%, while the average for Sweden was well over 30.0%. For our sample, all but four countries (Argentina, Mexico, Trinidad and Tobago, and Uruguay) have averages *under* 10.0%. In fact, no Latin American and Caribbean countries have averages over 15.0%, highlighting the relatively small size of the region's public sector compared to that of the OECD countries.[13]

- As Table 3 shows, at the level of central government, public employment in our sample of 16 LAC countries averages about 5.7% of EAP. Central government employment accounts for the highest percentage of EAP in the

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[13] Suriname and Barbados are exceptions; if data were available for those two countries, results would show that general government employment accounts for over 15.0% of EAP. On the level of consolidated central government alone, public employment accounts for about 20.0% of EAP in Suriname and 18.6% of EAP in Barbados.

Bahamas (10.7%). However, at the level of *consolidated* central government (data at the level of central government is not available), public employment in Suriname and Barbados are 20.0% and 18.6% of EAP, respectively. In these two countries, government employment measured as a percentage of EAP is by far the largest in the region. The results for the LAC region range from Suriname and Barbados to Brazil, whose central (or consolidated central) government employment accounts for only 0.7% of EAP. The average for Group 1 countries for which data is available at the level of central government is 5.8% of EAP. The average for Group is similar at 5.7% of EAP.

- Measuring public employment as a percentage of EAP rather than total population corrects for the distortion that may arise due to variations in the proportion of children in the total population and of the propensity of women to seek work outside the home. In LAC countries, the population under age 15 as percentage of total population ranges from 21.1% in Barbados to 43.9% in Guatemala. The percentages for Bolivia, Haiti, Honduras, Nicaragua, and Paraguay are also relatively high, with about 40.0% of the total population under the age of 15. Percentages for other LAC countries hover between around 25% to 35% (UNDP, 2001). For those countries with a relatively high proportion of children in the population, the scope of the public sector may be larger than the ratio of public employees to total population would suggest. The measure, though, does not significantly affect comparisons or statistical results for the determinants of public employment or correlations of clean, effective government.

Table 2. Civilian Public Sector Employment, 1999 or most recent year available
(% of population)

Latin America and the Caribbean	Total Public Sector	General Govt.	Consolidated Central Govt.	Central Govt.
(Group 1) Argentina	4.9	4.8	1.1	0.9
Bahamas				5.6
Barbados			9.4	
Brazil	3.3	3.3	0.4	
Chile	2.5	1.0	0.9	
Mexico	4.8	4.3	1.5	1.2
Trinidad and Tobago	*8.7*	*5.4*		
Uruguay	6.3	5.9	4.8	3.6
Venezuela	5.7			2.1
(Group 2) Belize				3.3
Bolivia	2.3	2.2	2.0	1.9
Colombia		1.2		
Costa Rica	4.4			2.2
Dominican Republic	3.9			2.5
Ecuador		2.6		2.3
El Salvador	2.1	1.8		
Guatemala				1.6
Guyana	6.8			1.4
Haiti	0.6			
Honduras	2.1			1.6
Jamaica		4.0		
Nicaragua	1.8	1.7		1.6
Panama	5.3			3.4
Paraguay				*3.2*
Peru		3.2	2.4	
Suriname	9.1		7.9	
LAC Average	4.1	3.0	3.4	2.3
Group 1 Average	4.6	3.9	3.0	2.7
Group 2 Average	3.8	2.4	4.1	2.2

Column averages do not encompass data from 1995-6 or before (shown in italics).

**Table 3. Civilian Public Sector Employment, 1999 or most recent year available
(% of Economically Active Population)**

Latin America and the Caribbean	Total Public Sector	General Govt.	Consolidated Central Govt.	Central Govt.
Argentina	11.7	11.4	2.6	2.1
Bahamas				10.7
Barbados			18.6	
Brazil	7.5	7.4	0.7	
Chile	6.3	2.6	2.3	
Mexico	12.0	10.7	3.8	3.1
Trinidad and Tobago	*21.5*	*13.3*		
Uruguay	14.6	13.6	11.1	8.3
Venezuela	13.3			4.9
Belize				8.7
Bolivia	6.0	5.8	5.2	4.8
Colombia		2.8		
Costa Rica	10.5			5.2
Dominican Republic	8.7			5.5
Ecuador		6.3		5.6
El Salvador	5.2	4.8		
Guatemala				5.6
Guyana	15.7			3.2
Haiti	1.3			
Honduras	6.3			5.0
Jamaica		9.1		
Nicaragua	5.2	4.8		4.5
Panama	13.8			8.7
Paraguay				*8.1*
Peru		8.1	6.1	
Suriname	23.0		20.0	
LAC Average	**10.1**	**7.3**	**7.8**	**5.7**
Group 1 Average	**10.9**	**9.2**	**6.5**	**5.8**
Group 2 Average	**9.6**	**6.0**	**10.4**	**5.7**

Column averages do not encompass data from 1995-6 or before (shown in italics).

6. RESULTS: WAGES

Figures 1-5 and Table 4 show measures of government expenditure on wages and salaries (wage bill), average wages in the public sector, and relative public sector wage levels.

While each of the following measures shown in Figures 1-5 and Table 4 are imperfect to a certain degree, all are useful guides for assessing the relative size and influence of the public sector wage bill and the relative adequacy of public sector wages. The key findings are as follows:

- The ratio of the public sector wage bill to GDP serves as a useful measure of the relative involvement of the state in the economy (World Bank, 2001b). For the sample of 12 Latin American and Caribbean countries for which data are available, the total public sector wage bill absorbs about 9.2% of GDP (see Figure 1). The ratio of the total public sector wage bill to GDP ranges from about 19.4% in Guyana to about 3.4% in Guatemala. Apart from these two countries and Brazil, whose wage bill absorbs 11.8% of GDP, all other countries in the sample have wage bills that account for between 7.0% and 10.0% of GDP, consistent with worldwide averages.[14] The Group 1 average is slightly higher at 9.6% of GDP than the average for Group 2 at 9.1% of GDP.

- As Figure 1 shows, the general government wage bill, for a sample of 10 countries absorbs about 7.1% of GDP. The weight of the wage bill relative to economic output is heaviest in Brazil (11.2% of GDP) and Bolivia (10.0% of GDP). At the lower end are Guatemala, Peru, Chile, and the Dominican Republic, with wage bills that absorb 3.4%, 5.0%, 5.3%, and 5.9% of GDP, respectively. Overall, the average for Group 1 (8.0% of GDP) is higher than the average for Group 2 (6.4% of GDP). These results are consistent with data available for many of the OECD countries. For the most developed countries, general government total compensation costs (which includes the wage bill in addition to employers' contributions to social insurance) ranged from between 5.0% and 10.0% of GDP in the United States, Australia, and Norway (in 1997). In other OECD countries, like Denmark, Sweden, Finland, and Portugal, the total compensation costs absorbed a significantly higher percentage of GDP (about 15.0%) (OECD, 2000, p. 2). In general, less-developed and developing countries' general government wage bills (and total compensations costs) relative to GDP tend to be smaller than developed countries', reflecting the relatively smaller size of governments in developing countries.

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[14] Schiavo-Campo, et al. (1997a) estimate that total public sector salaries absorbed about 8.0% of GDP as a worldwide average in the early 1990s.

- For a sample of 20 LAC countries for which data are available the central government wage bill accounts for about 6.8% of GDP (see Figure 1). For the remaining six borrowing member countries data on the wage bill are only available for *consolidated* central government. When the figures at this level for this set of countries are averaged along with the central government figures for the 20 countries, the average for all 26 countries equals about 6.3% of GDP. The ratio of the central (or consolidated central) government wage bill to GDP ranges from a high of 16.1% in Suriname to a low of 2.3% in Argentina. Jamaica, Belize, and Barbados are the countries, along with Suriname, with relatively the largest central government wages bills relative to GDP (greater than 10% of GDP). At the low end along with Argentina, are Mexico, Brazil, Colombia, and Venezuela (all with wages bills around 2.5% of GDP), and Peru, whose wage bill absorbs about 3.1% of GDP. Overall, the central government wage bill for Group 1 averages about 6.2% of GDP and for Group 2 about 6.9%. For comparison, the worldwide average in the early 1990s for the central government wage bill was about 5.4% of GDP. The same source estimates that the average for Latin America in the same period (4.9% of GDP) was similar to that of the OECD countries (4.5% of GDP) and Asia (4.7% of GDP). The Middle East and North Africa had the highest central government wage bill as a share of GDP (9.8% of GDP), and a sample of 21 African countries was second highest (6.7% of GDP). The wage bill was lowest in Eastern Europe and the former Soviet Union, where it averaged 3.7% of GDP (Schiavo-Campo, et al., 1997a, pp. 8-10).

- As Figure 2 shows, the total public sector wage bill for a sample of 12 LAC countries accounts for about 33.8% of total public sector expenditure. Its share is largest in Mexico and El Salvador, at close to 45.0% of total expenditure. The total public sector wage bill is also large in Argentina, Brazil, Guyana, and Paraguay where its share of total public sector expenditures hovers around the 40% mark.[15] The wage bill measured as a percentage of public sector expenditure can indicate possible inefficiencies in the use of governmental resources. When the ratio is relatively high (over 25%), non-wage expenditures such as goods and services, maintenance, and capital expenditure may suffer (World Bank, 2001b). Accordingly, most LAC countries have what are considered relatively large wage bills. In fact, only two of 26 borrowing member countries have public sector wage bills lower than 25% of total public sector expenditures (Nicaragua and Uruguay). For Group 1, the total public sector wage bill averages about 35.4% of total public sector expenditures, slightly higher than the average for Group 2 (33.0%).

- As Figure 2 shows, the average general government wage bill as a percentage of total general government expenditures averages about 29.4% for a sample of 11 LAC countries for which data are available. Brazil is at the

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[15] Haiti, Suriname, and Belize also have wage bills around 40% of total expenditure, but data are not available for the level of Total Public Sector. Data for these three are on the level of Central Government, as seen in Figure 2.

high end, with 40.4% of general government expenditures being absorbed by the wage bill. Only three countries in our sample have general government wages bills that, as recommended, account for less than 25% of total general government expenditure: Chile (20.2%), Nicaragua (18.6%), and Peru (22.7%). Averages for Group 1 and Group 2 are similar (30.9% and 28.6%, respectively).

- For a sample of 19 LAC countries for which data are available, the average central government wage bill absorbs about 30.2% of total central government expenditure. Countries with the largest wage bills relative to total central government expenditure include the Bahamas (46.3%), El Salvador (41.5%), Haiti (42.9%), Paraguay (42.6%), and Suriname (41.3%). The central government wage bill accounts for about 28.1% of total central government expenditures for the sample of four Group 1 countries, somewhat lower than the average for the sample of 15 Group 2 countries (30.7%). When data for consolidated central government is considered as well data for central government, there are eleven LAC countries whose wage bill ratios are less than 25%: Argentina, Brazil, Bolivia, Chile, Colombia, Guyana, Mexico, Nicaragua, Peru, Uruguay, and Venezuela (See Figure 2 or individual country Profiles in Appendix).

- An important measure of public sector wages is the ratio of average public sector wages to GDP per capita (see Figure 3). Measuring wages in relation to GDP per capita is generally used to show the condition of an average government employee in relation to living standards in a particular country (World Bank, 2001c). As Figure 3 shows, the results of our analysis indicate that at the level of total public sector, the ratio of average wages to GDP per capita ranges from a high of 3.7 in Brazil to a low of 1.0 in Uruguay. At the high end with Brazil, are Bolivia (3.3) and the Central American countries of El Salvador (3.3) and Nicaragua (3.4). Countries with low ratios, in addition to Uruguay, are Argentina (1.6), the Dominican Republic (1.6), and Panama (1.8). The average ratio of total public sector wages to GDP per capita for our sample of 9 LAC countries, is about 2.4. The Group 1 average of 2.1 is lower than the average for Group 2 (2.7). Several factors affect the value of the ratio of average wages to GDP per capita, in addition to the methodological difficulties related to international comparisons of wages in general. For example, developing countries that have a relative scarcity of trained labor, larger number of dependents, and/or low standards of living will have larger ratios than developed countries (World Bank, 2001b). Also, GDP per capita is often underestimated in developing countries that have a relatively large informal sector, because production (and, therefore, GDP per capita) is underestimated (Schiavo-Campo, et al. , 1997a, p. 9). This series of factors should be considered before assessing the under- or overpayment of public employees in the LAC region. A relatively large ratio, such as that observed in the case of Brazil, does not necessarily indicate that a country's public employees are overpaid. Likewise, a relatively small ratio (as in the case of

Uruguay) may reflect more about how wage expenditure data is reported than about the adequacy of wages. It is probable that the wage expenditure data available for Uruguay fails to capture a significant part of total public sector compensation. This inference is supported further by results presented in Figure 4, which show public sector average wages as a ratio of manufacturing wages, where again the ratio for Uruguay is unexpectedly low.

- At the level of general government, the ratio of average wages to GDP per capita across a sample of Latin American and Caribbean countries averages 2.8. Most of the nine countries in this sample have ratios near or slightly higher than the average for the region: Brazil (3.4), Chile (3.0), Bolivia (3.9), Colombia (3.2), Jamaica (3.2), and Nicaragua (3.4). The average for this small sample of countries is driven down by the low ratios of average general government wages to GDP per capita of three countries: Argentina, Peru, and Mexico (1.6, 1.6, and 1.8, respectively). The average ratio of general government wages to GDP per capita for Group 1 is about 2.5, while the ratio for a sample of five Group 2 countries averages about 3.1.

- As Figure 3 shows, the ratio of average central government wages to GDP per capita averages 2.0 for a sample of 13 LAC countries for which data are available. The results range from about 4.2 for Honduras to 1.0 for Uruguay. Along with Honduras, Nicaragua has a relatively high ratio (3.0).[16] Mexico (2.1), Belize (2.2), and Costa Rica (2.5) are in intermediate positions. Overall, the average ratio of central government wages to GDP per capita is about 1.5 for Group 1 and 2.2 for Group 2. In the early 1990s, Schiavo-Campo, et al., recorded an average of 2.5 for their sample of LAC countries. For the same period, the average ratio for OECD countries was significantly lower at about 1.6 (1997a). The only region with a lower figure than the OECD was Eastern Europe and the former Soviet Union. The authors account for the OECD's relatively low result by citing the region's higher participation rate, much higher GDP per capita, and smaller skill differentials between public employees and the rest of the working population. The low multiplier for Eastern Europe and former USSR is due both to the existence of non-wage benefits not captured in the data, as well as to the reality of wage inadequacy in the region (1997a, p. 9).

- Another valuable measure of public sector wages is the ratio of average public sector wages to manufacturing wages, available at the level of total public sector for seven LAC countries (see Figure 4). The LAC average for this limited sample is about 2.0. The values fluctuate significantly, ranging from 4.1 for Mexico to 0.5 for Nicaragua and Uruguay (in this latter case using data from 1995). Panama's ratio (0.8) is closer to the lower figure, while the next highest ratio after Mexico's is that of El Salvador (2.7). Brazil is not far

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[16] Data on the level of central government is unavailable for Brazil and Chile; however, if data on the level of *consolidated* central government are considered, both countries have relatively large multipliers (4.4 and 3.0 respectively).

behind (2.6). Overall, for this limited sample of countries the Group 1 average (2.8) is significantly higher than the Group 2 average (1.4). In fact, Group 1 averages for all levels of government are significantly higher than Group 2 averages. (This is true even when data from different levels of government are combined into one larger, more representative sample). It should be noted, however, that the small number of countries for which data on manufacturing wages is available at each of the four levels of government makes drawing conclusions from comparisons of LAC and Group averages problematic.

- As Figure 4 shows, at the level of general government the average ratio of public sector wages to manufacturing wages for a sample of eight countries is about 2.1. The figures range from 3.7 for Mexico to 0.5 for Nicaragua. Brazil and Chile are closer to the higher end (2.4 and 2.8, respectively) while Argentina's ratio is below the average (1.5). The Group 2 countries of Bolivia (1.8), Colombia (1.7), and Jamaica (2.0) are in intermediate positions. For our sample of four Group 1 countries, the average ratio is about 2.6. The Group 2 average is significantly lower at about 1.5.

- As Figure 4 shows, the ratio of average central government wages to average manufacturing wages for a sample of five countries is about 1.6. Again the high end is occupied by Mexico and the low end by Nicaragua, which have ratios of 4.2 to 0.4, respectively. In intermediate positions are Brazil and Chile, with (consolidated) central government average wages about 3.0 and 2.8 times manufacturing average wages, respectively. For Group 1, data at the level of central government is available for Mexico only; as a result, it is not meaningful to compute an average.[17] The Group 1 average for consolidated central government (2.3) is somewhat representative, as it comprises data from four of the nine Group 1 countries. For a sample of four Group 2 countries at the level of central government, the average is about 0.9. Data for the OECD countries show a wide variation, much like the Profile data shows a wide dispersion for the LAC region. In the early 1990s, ratios of average central government wages to average manufacturing wages ranged from a high of 3.9 for France to lows of 0.2 and 0.4 in Canada and the United Kingdom, respectively. The average for a sample of 14 OECD countries was about 1.6 (Schiavo-Campo, et al., 1997b, p. 44). The LAC and Group averages shown in Figure 4 for all levels of government seem to suggest that public sector employees in the LAC region are relatively well-paid. However, results using this measure of average wages can be misleading, primarily due to the fact that most government employees are white collar workers while most employed in manufacturing are blue collar workers.

- International comparisons of compression ratios (here, figured simply as the ratio of the highest salary to the lowest on a specified government pay scale),

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[17] Data shown in Figure 4 for Uruguay at the level of central government is for 1995 (or closest year available) and is therefore not included in the average for Group 1.

are particularly complicated. Though the compression ratio is usually derived from the central government's main pay scale, some LAC governments have multiple pay scales. This means that a significant number of public sector employees (teachers, for example) may receive payment based on a scale distinct than what is reported here. The source of most of the data in Table 4 and Figure 5 is the Regional Policy Dialogue's questionnaire on Civil Service Reform. The majority of questionnaire responses did not specify the number or proportion of public sector employees that are subject to the pay scale on which the response is based. In addition, civil service pay scales may not capture monetary allowances that comprise a significant part of total compensation. Non-wage benefits, also an important part of total compensation, are not considered in pay scales at all. The results of our analysis show that compression ratios vary widely in the LAC region. The average for our 17-country sample is a relatively high 20.2. The average compression ratio for Group 2 (24.5) is larger than that of Group 1 (11.5). Throughout the region, compression ratios range from 89.8 in Peru, to 2.9 in Uruguay. Compression ratios may be used to indicate wage policy problems. For example, a low compression ratio may indicate that wages that are too low at the top to attract and retain quality staff. An unusually large compression ratio may point to troublesome distortions, as well. Compression ratios ideally should fall between 1:7 and 1:20 in order to create appropriate incentives for employees (World Bank, 2001a). However, the way compression ratios are measured is important. Due to data limitations, in this study the simplest method was employed to calculate the ratios. With more data, it becomes feasible to prevent the inclusion of outliers in the calculations by measuring the compression ratio by dividing the median of the ninth decile salaries by the median of the first decile salaries.

Figure 1. Public Sector Wage Bill, 1999 or most recent year available
(expenditures on wages and salaries as a % of GDP)
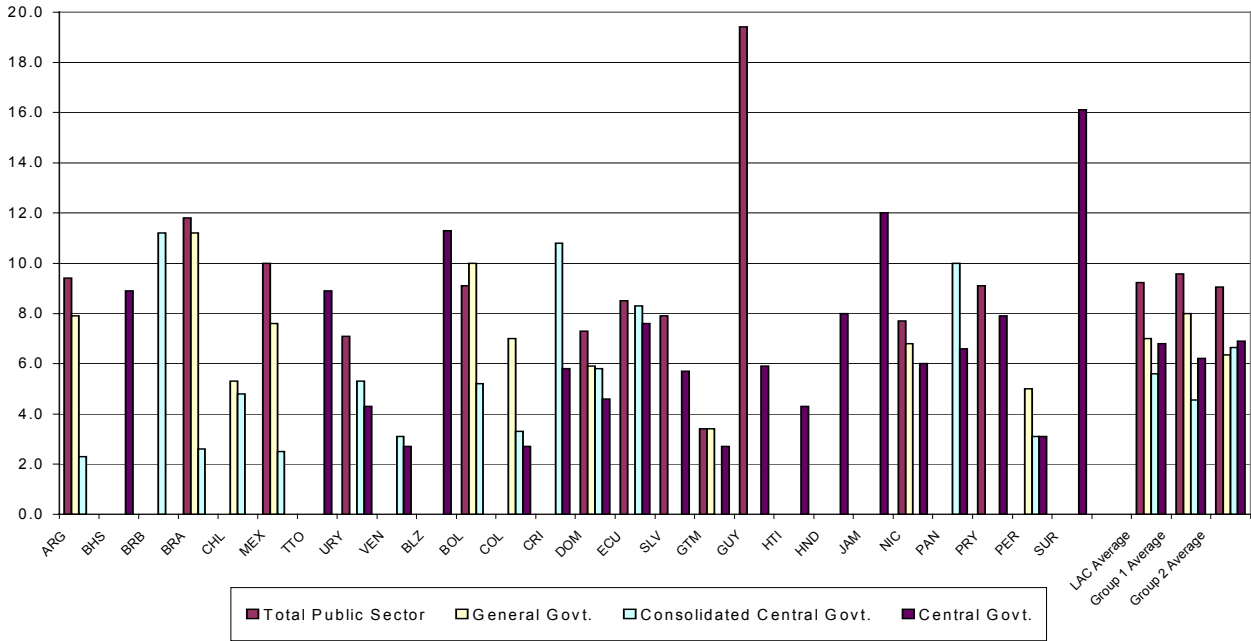
Figure 2. Public Sector Wage Bill, 1999 or most recent year available
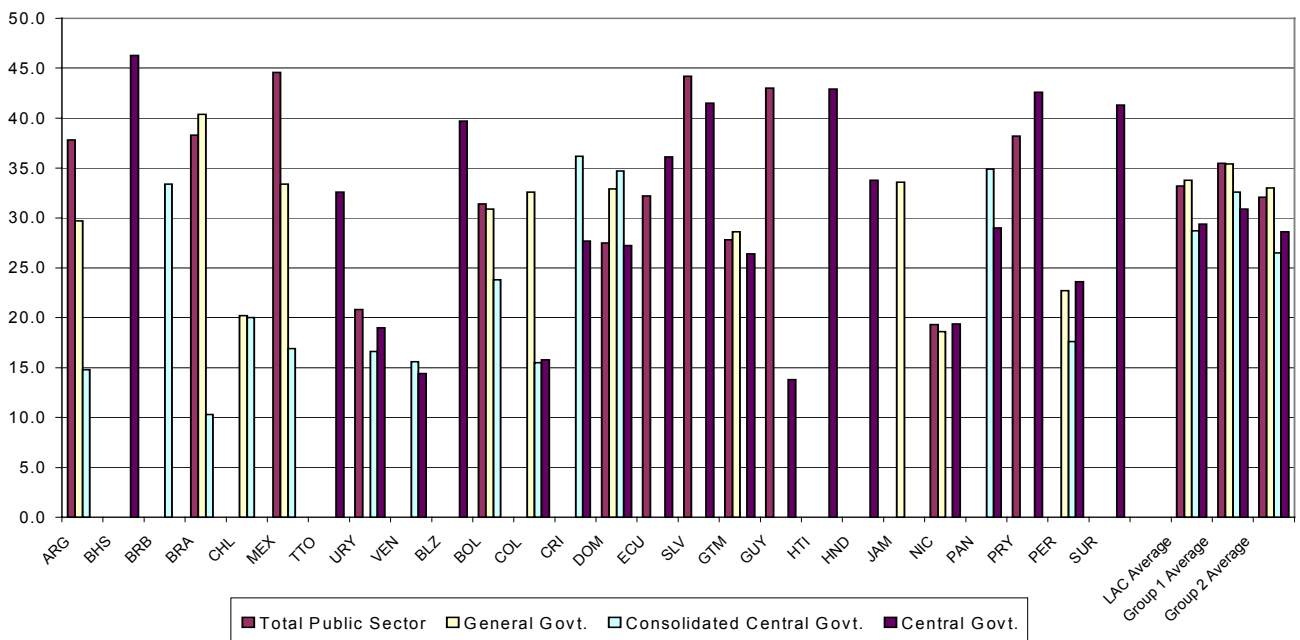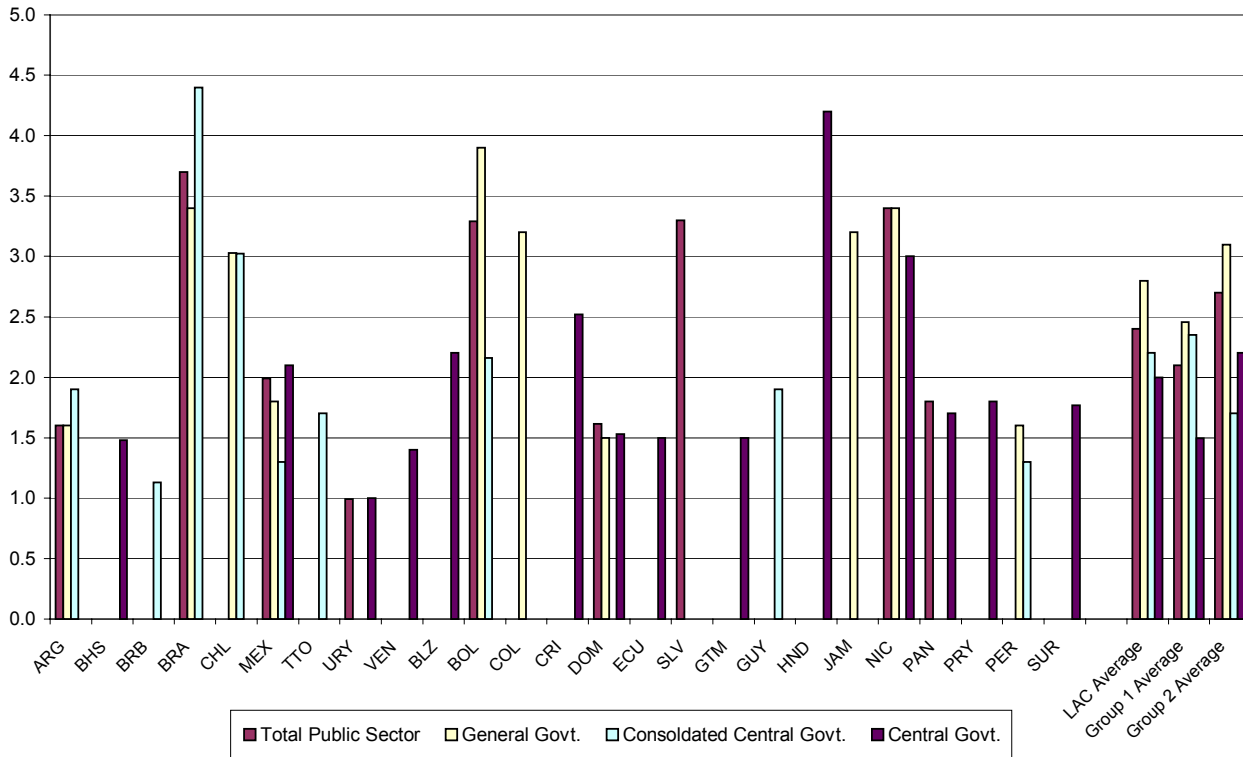### (expenditures on wages and salaries as a % of total expenditures)

Figure 3. Public Sector Average Wages,1999 or most recent year available
(as a Multiple of GDP per capita)

Data for 1995 or closest year available for TTO, GUY, and PRY. Data for 1995 for DOM at the level of General Govt. only.

Figure 4. Public Sector Average Wages, 1999 or most recent year available
(as a Multiple of Average Manufacturing Wages)
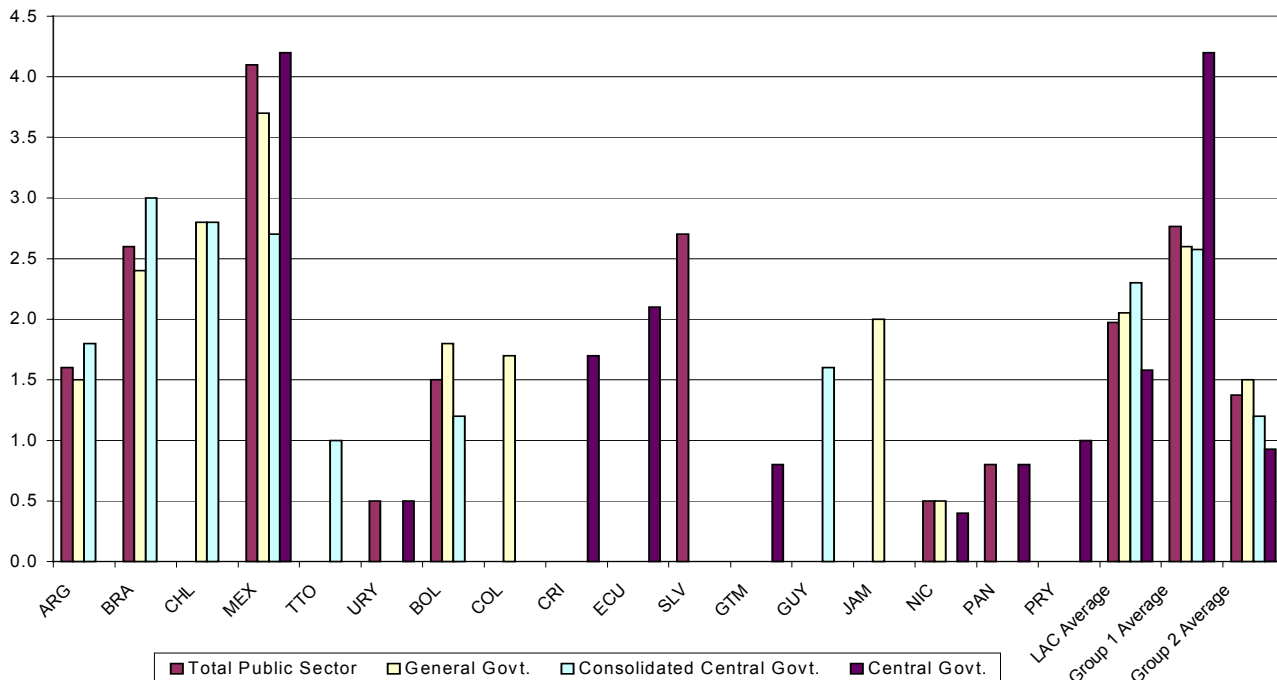
Data for 1995 or closest year available for TTO, URY, ECU, GUY, and PRY.

Table 4. Compression Ratio, 1999 or most recent year available
(the ratio of the highest salary to the lowest on a specified
government pay scale)

Argentina	8.0
Barbados	5.5
Brazil	3.5
Chile	23.0
Uruguay	2.9
Venezuela	26.0
Belize	6.0
Colombia	18.9
Costa Rica	12.3
Ecuador	28.0
El Salvador	13.7
Guatemala	7.4
Guyana	8.0
Honduras	10.0
Nicaragua	67.0
Panama	25.0
Peru	89.8
Suriname	8.1
LAC Average	**20.2**
Group 1 Average	**11.5**
Group 2 Average	**24.5**

Figure 5. Compression Ratio
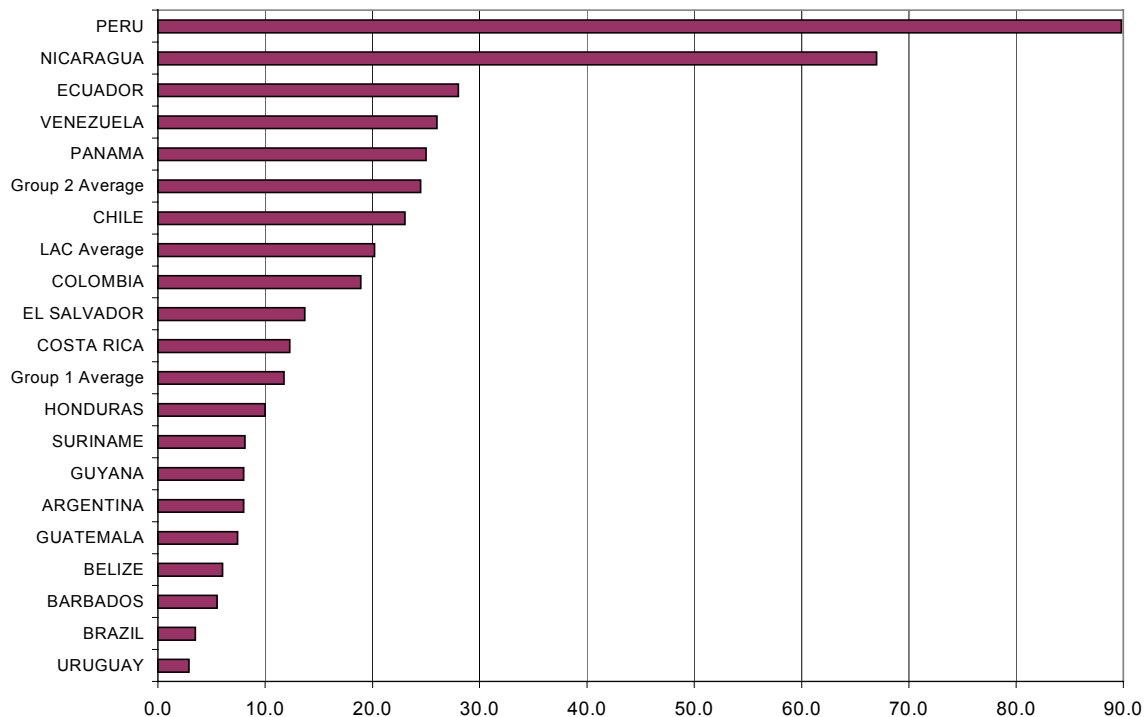
7. RESULTS: TRENDS IN PUBLIC SECTOR EMPLOYMENT AND PAY

The data presented here permits the analysis of trends in the second half of the 1990s in respect to the size of government, measured by both employment and by the wage bill, as well as public sector wage levels for the years between 1995 and 1999 (or closest years available). The two existing international comparisons of public sector employment and wages (Heller and Tait, 1983 and Schiavo-Campo, et al., 1997a, 1997b) cover the early 1980s and the early 1990s, respectively. Comparisons of regional and group averages between the profile data and the other two are difficult due to variations in the countries covered. However, information from the earlier studies is presented in order to offer a broader picture of public employment and wages over time. We also present the changes in public opinion toward the public administration by country from 1996 to 2001, based on the Latinobarometro survey.

To maximize comparability, employment and wage figures are presented in this section at the levels of government for which most data are available (total public sector and central government), and for those countries for which data is available for both 1995 and 1999 (or as close to these years as possible). Data from levels of government other than total public sector and central government are shown when appropriate. For example, when data on the level of consolidated central government are available for those countries that lack data at the level of central government, the consolidated central government data are reported on the graph. However, data shown at the levels of general government and consolidated central government are **not** included in the calculations of LAC, Group 1, and Group 2 averages.[18]   The key findings about the trends from 1995 to 1999 for the LAC region, for Group 1, and for Group 2 are as follows:

- As Figures 6 and 7 show, from 1995 to 1999 (or closest years available), public employment relative to the total population has generally decreased throughout the region. The LAC average for total public sector employment as a percentage of population contracted from about 5.4% in 1995 to about 4.1% in 1999.   Average central government employment relative to population has contracted, as well, from about 2.7% in 1995 to about 2.3% in 1999. As Oszlak (2001) reports, downsizing of public sector personnel in the region has been carried out to varying degrees through a range of measures: voluntary early retirement, elimination of job positions and redundancies, and dismissal with or without compensation. Privatization of public services also accounts for some of the reduction. A general contraction in public employment has been a trend at least since the early 1980s for some LAC countries. Schiavo-Campo, et al. (1997b) report a decline in central government employment (excluding education and health employees) relative to population, from 2.4% in the early '80s to 1.5% in the early 1990s (for a

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[18] When all data is included in the calculations of averages, the results do **not** change significantly. The overall results and trends remain the same for the LAC Region, Group 1, and Group 2 whether averages are based on data from one level only, or when averages are based on data from two or more comparable levels of government.

sample of five LAC countries which overlaps with the 1983 Heller and Tait sample).   They report the same trend for OECD countries, which experienced a decline in central government employment from 2.9% of the population in the early 1980s to 1.9% of the population in the early 1990s.

▪ For a sample of four Group 1 countries, our study shows that relative to population, total public sector employment decreased from about 5.8% in 1995 to about 4.6% in 1999. A sample of four Group 1 countries shows that average employment in the central government as a percentage of population also decreased, from 3.3% to 2.7%. In some Group 1 countries, downsizing was concentrated in the 1980s or even the '70s for Chile (for which data is not available at the level of total public sector, but is at the levels of general government and central government). As Figures 6 and 7 show, Chile's public employment relative to population has remained steady, with general government comprising about 1.1% of population and central government about 0.9% of population in both 1995 and 1999.

▪ In a sample of eight Group 2 countries, employment in the total public sector as a percentage of population decreased substantially during the five-year period, from about 5.1% to 3.8%. A six country sample shows that central government employment relative to population has contracted slightly, from about 2.3% in 1995 to about 2.2% in 1999. As Figures 6 and 7 show, several Group 2 countries have undergone significant downsizing in the 1990s. For example, relative to population, total public sector employment in Nicaragua contracted from about 2.4% to 1.8%. Central government employment in Nicaragua decreased from 2.0% of population in 1995 to about 1.6% of population in 1999. This contraction follows a 57% decrease in total public sector employment, measured in absolute terms, from 1990 to 1995 (see country profile in Appendix).

▪ The expansion in the LAC region of the average government wage bill relative to GDP per capita runs contrary to the trend of contraction in the early '80s and early '90s, established by Schiavo-Campo, et al. (1997b, p. 9).[19] They report a decline in the central government wage bill from 7.3% of GDP in the early '80s to 4.7% of GDP in the early '90s. A more modest declining trend occurred in the OECD countries, where the wage bill fell from 5.5% to 4.4% of GDP. As Figure 8 shows, our survey reveals an overall expansion of the total public sector wage bill relative to GDP for a sample of 12 countries from about 8.8% in 1995 to 9.2% in 1999. The average central government wage bill as a proportion of GDP expanded for a sample of 19 countries from about 6.0% in 1995 to about 6.9% in 1999. This expansion of the wage bill, which can be mainly attributed to changes within Group 2, occurred simultaneously with a contraction in the size of government measured in terms of employment relative to population.

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[19] Schiavo-Campo, et al. (1997b) used a sample of just seven LAC countries, so comparability with our study is tenuous. However, the information is useful to show broad trends across time.

- As Figures 8 and 9 show, in Group 1 the average wage bill relative to GDP did *not* expand from 1995 to 1999. Instead, the average total public sector wage bill relative to GDP contracted slightly from about 9.7% to about 9.6%. At the level of central government, the average wage bill relative to GDP contracted from about 6.5% in 1995 to about 6.2% in 1999.

- In the same time period, the Group 2 average for the total public sector wage bill relative to GDP expanded from about 8.4% to about 9.1% (for a sample of eight countries). Likewise, the central government wage bill relative to GDP expanded form 5.9% in 1995 to 7.1% in 1999 (for a larger sample of 15 countries) . Because this expansion occurred along with a contraction in employment levels relative to population, it may reflect effects of policies to correct wage inadequacies in the public service. However, the relatively large weight of the wage bill in some countries may have negative implications for government effectiveness, in terms of whether or not it is possible to maintain sufficient levels of *non-wage* expenditure.

- Again contrary to the pattern of the five country sample of Schiavo-Campo, et al. (1997b, p. 9) for the early 1980s to early 1990s, our sample shows that average wages in the region have tended to rise relative to GDP per capita in the five year period from 1995 to 1999. From the early 1980s to the early 1990s average wages (at the level of central government) had declined as a ratio of GDP per capita, from 2.7 to 2.3. OECD countries also experienced a decline, albeit slight, from 1.7 times GDP per capita in the early 1980s to 1.6 times GDP per capita in the early 1990s. For a sample of 11 LAC countries, total public sector wages increased slightly from an average of 2.3 times GDP per capita in 1995 to 2.4 times GDP per capita in 1999 (See Figure 10). At the level of central government (see Figure 11) the ratio of average wages to GDP per capita increased from 1.7 in 1995 to 2.0 in 1999, for a sample of nine countries. Generally, both Group 1 and Group 2 register increases in average wages relative to GDP per capita for both levels of government from 1995 to 1999.

- Figure 12 presents data from the Profiles' Section II (see Appendix), which contains information on the public opinion of citizens toward their country's public administration. Serial data were available for the category reporting the percentages of respondents who, when asked in interviews conducted by *Latinobarometro*, answered that they were somewhat or very confident in their country's public administration (*Latinobarometro,* 1996 and 2001).[20] The countries are arranged on the graph from the countries with the highest percentages of citizen confidence in public administration in 2001, to the countries where confidence is lowest. For the LAC region as a whole, results show a slight decrease in the percentage of respondents somewhat or very

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[20] Data from *Latinobarometro* covers 17 IDB member countries, which includes all Spanish-speaking member countries and Brazil. Excluded are the Anglophone countries, Haiti, and Suriname.

confident in the public administration, from 29.7% in 1996 to 27.6% in 2001. The decline, however, can be attributed entirely to responses from countries within Group 2. In fact, the number of respondents who were somewhat or very confident in the public administration in Group 1 increased significantly from an average of 27.2% in 1996 to 36.1% in 2001. Conversely, the average for Group 2 decreased from 31.1% to 23.0%. Costa Rica and Panama are the only Group 2 countries for which the percentage of respondents somewhat or very confident in public administration increased from 1996 to 2001. The number of respondents somewhat or very confident in public administration in El Salvador, Paraguay, and Honduras decreased more than 10%. In Guatemala and Nicaragua, the decline from 1996 to 2001 was greater than 20%. A clear trend cannot be drawn from surveys conducted at distinct moments in time over a short period, but this data does reinforce the notion that a continued focus on improving public administration is necessary throughout the region. This need is particularly strong in some Group 2 countries where perceptions of public administration seem to have deteriorated in the period from 1996 to 2001.

Figure 6. Total Public Sector Employment, 1995 and 1999
(% of population)
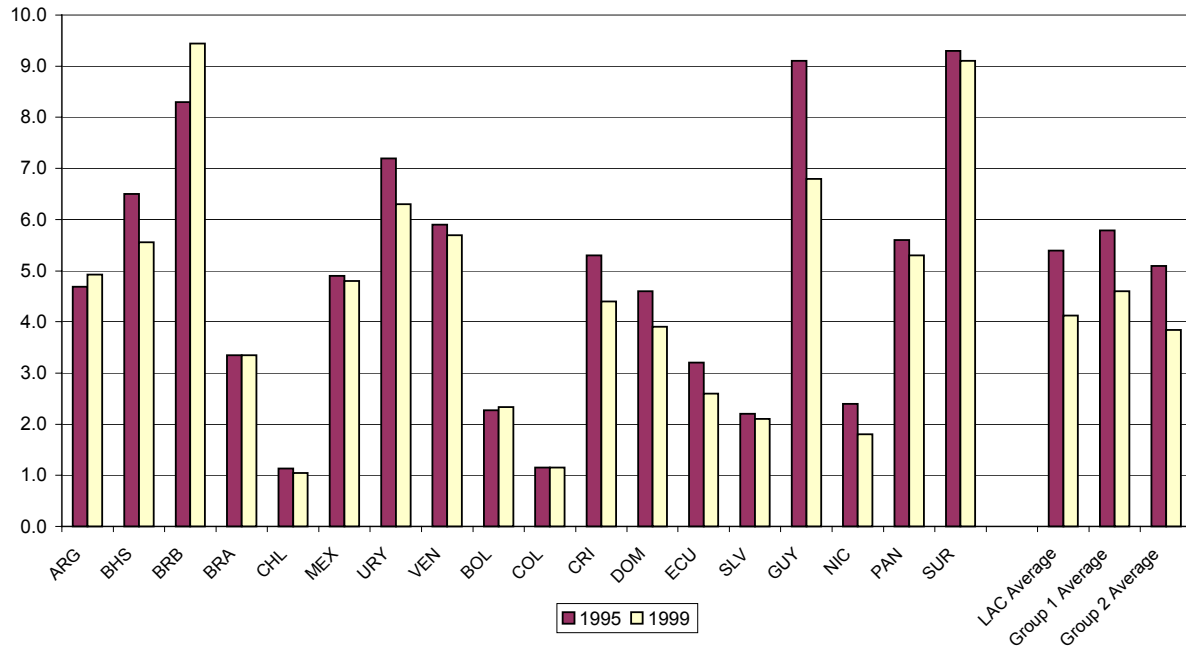
Data for CHL, COL, and ECU at the level of General Govt.; for BRB at the level of Consolidated Central Govt.; and BHS at the level of Central Govt. LAC and Group averages encompass data from the level of Total Public Sector only.

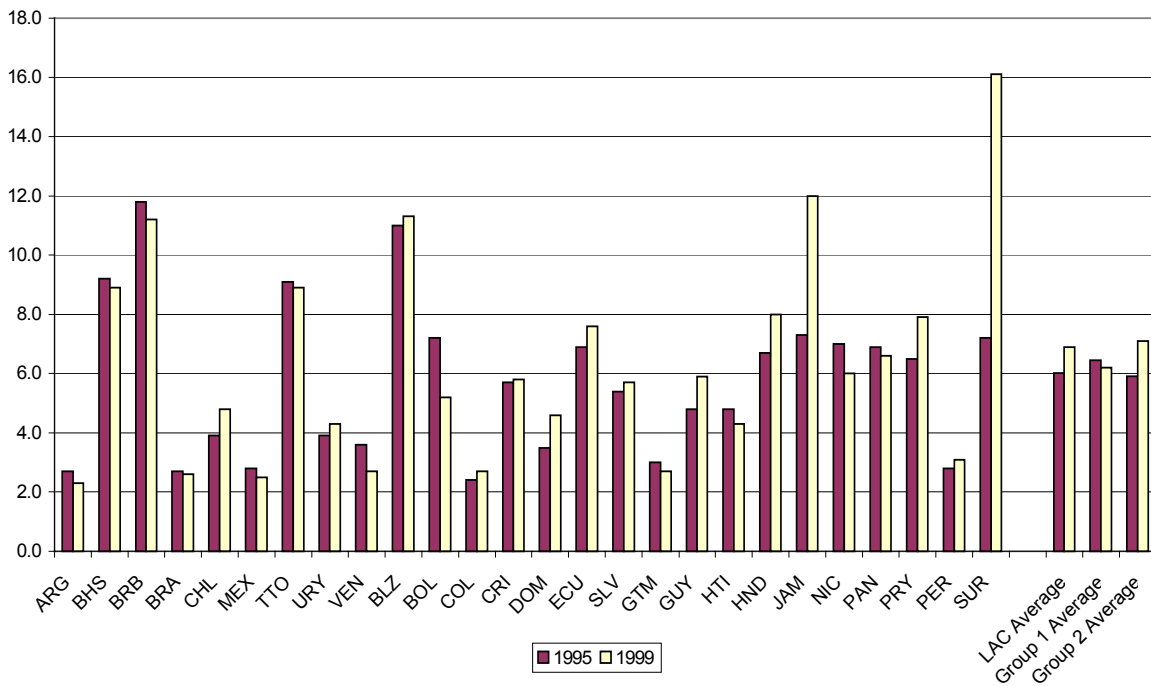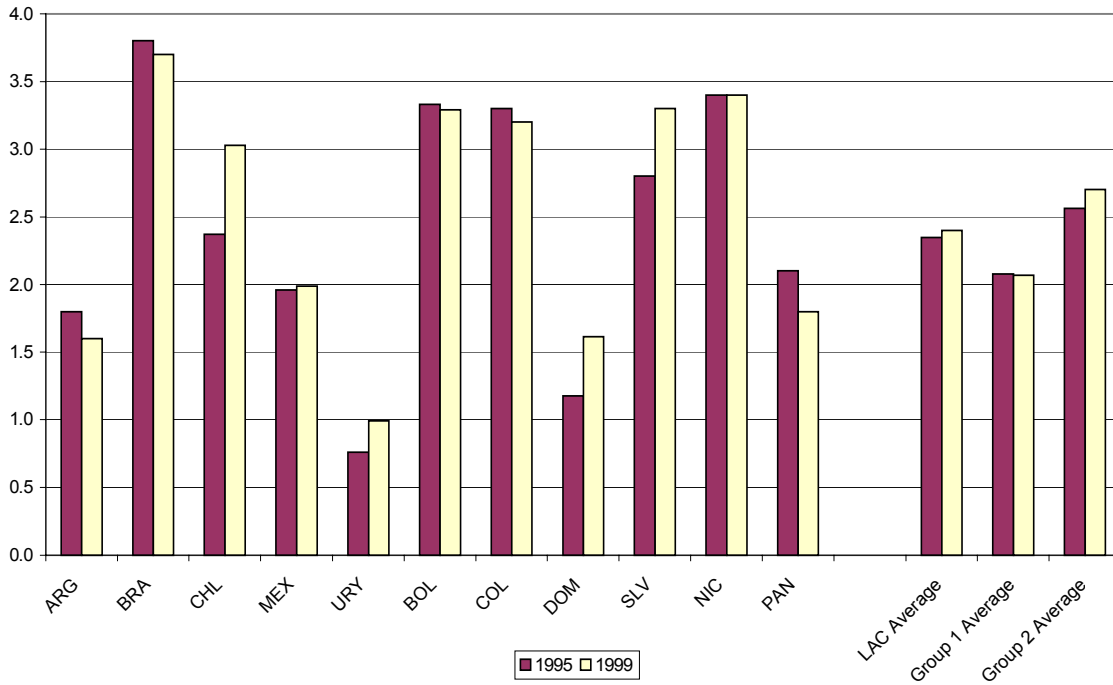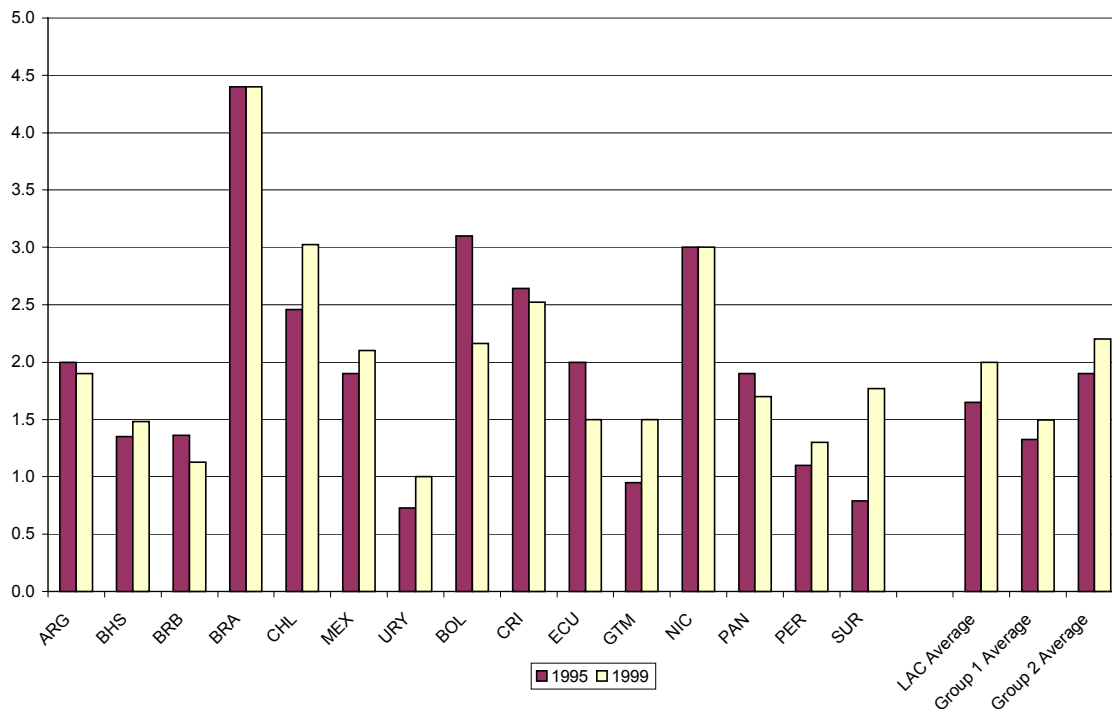# Figure 7. Central Government Employment, 1995 and 1999
(% of population)
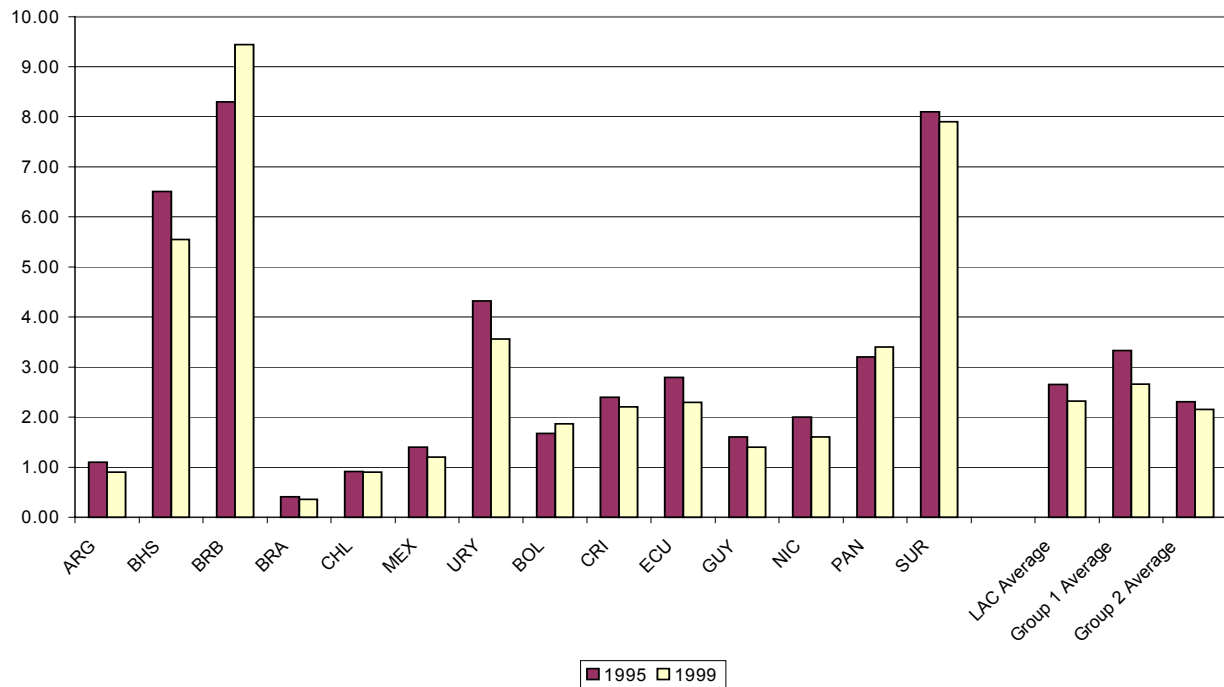
Data for BRB, BRA, CHL, and SUR an the level of Consolidated Central Govt. LAC and Group averages encompass data from the level of Central Govt. only.

Figure 8. Total Public Sector Wage Bill, 1955 and 1999
(% of GDP)
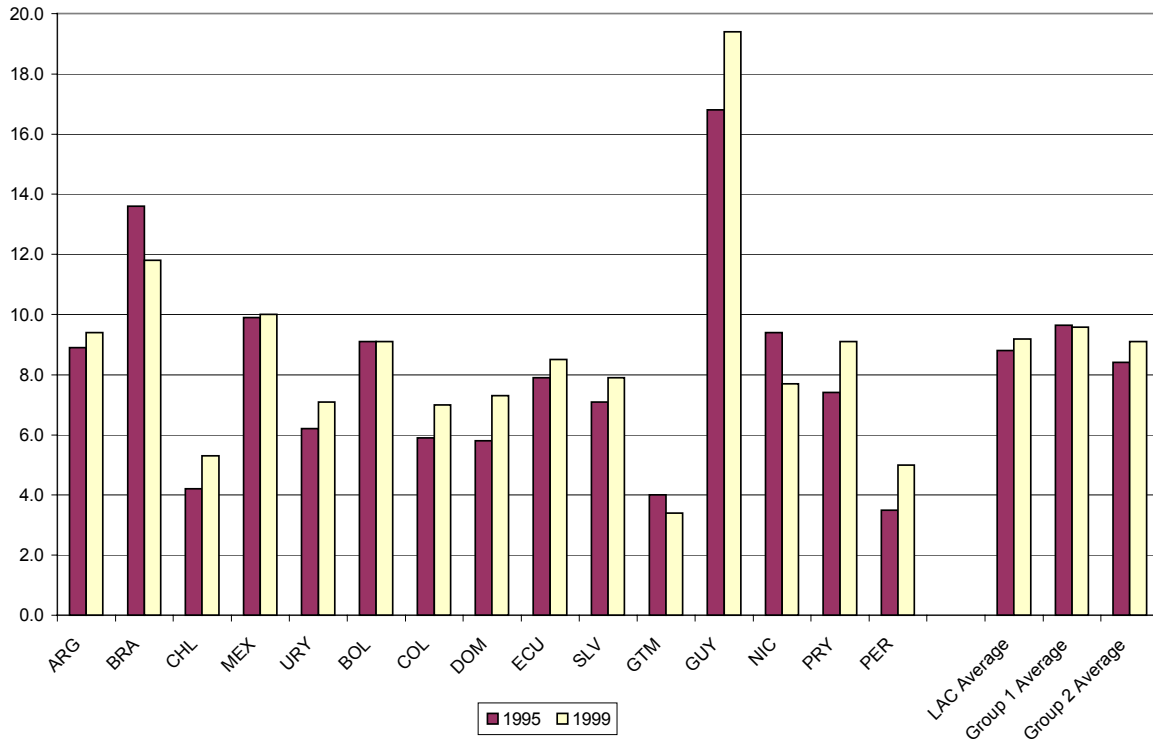
Data for CHL, COL, and PER at the level of General Govt. LAC and Group averages encompass data from the level of Total Public Sector only.

Figure 9. Central Government Wage Bill, 1955 and 1999
(% of GDP)

Data for ARG, BRB, BRA, CHL, MEX, BOL, and PER at the level of Consolidated Central Govt. LAC and Group averages encompass data from the level of Central Govt. only.

Figure 10. Total Public Sector Wages, 1995 and 1999
(as a Multiple of GDP per capita)

Data for CHL and COL at the level of General Govt. LAC and Group averages encompass data from the level of Total Public Sector only.

Figure 11. Central Government Wages, 1995 and 1999
(as a Multiple of GDP per capita)

Data for ARG, BRB, BRA, CHL, BOL at the level of Consolidated Central Govt. LAC and Group averages encompass data from the level of Central Govt. only.

Figure 12.   Confidence in Public Administration, 1996 and 2001
(% of survey respondents very or somewhat confident in public administration
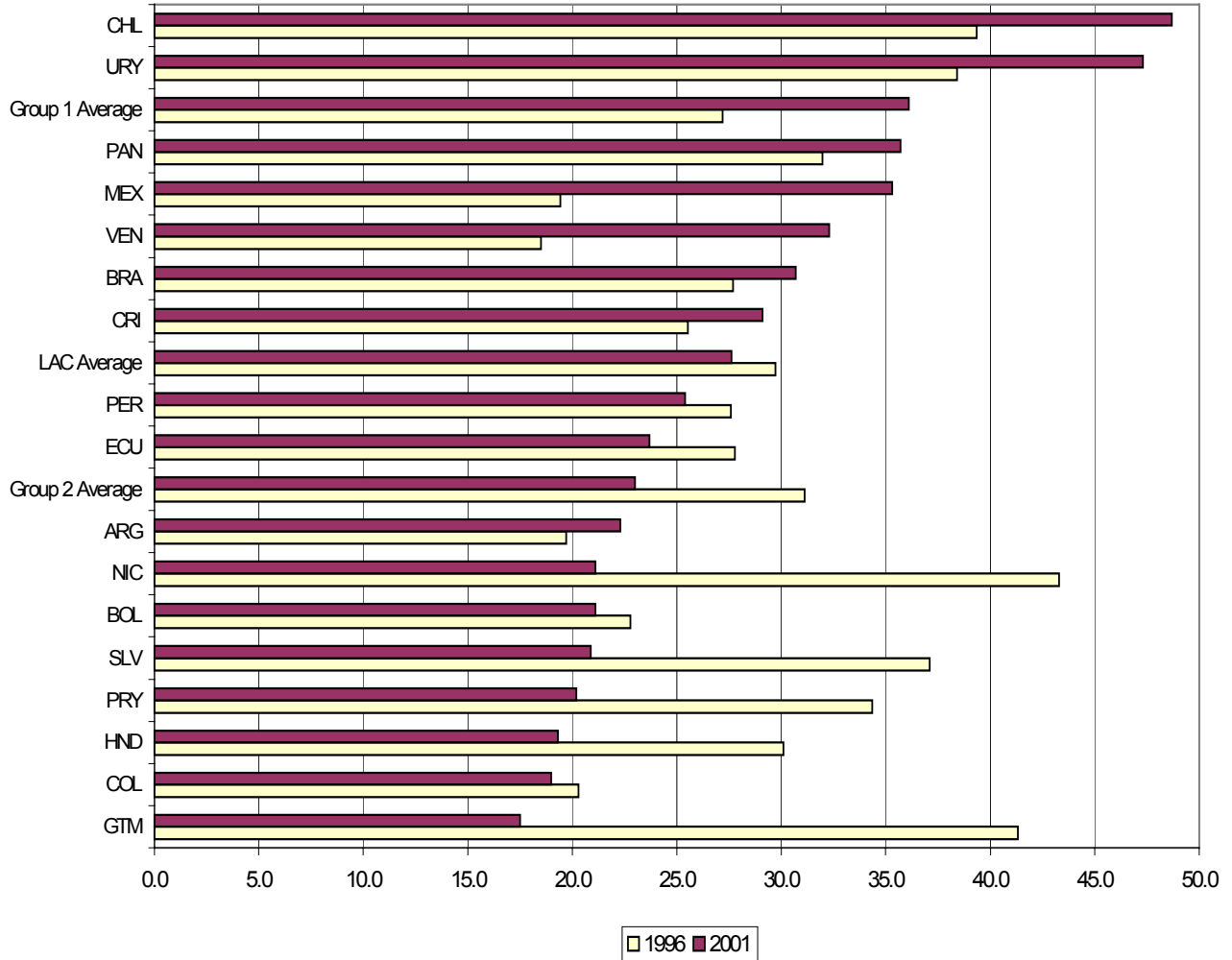
8. DETERMINANTS OF PUBLIC EMPLOYMENT

Analyzing the determinants of public employment is quite complex and, generally, beyond the scope of this study, whose main objectives are presenting the data gathered in the development of the Profiles and comparing countries of the region in terms of the levels of public employment, the burden of governmental wages, and the level of compensation for work in the public sector. Comparative studies have shown that a variety of factors influence levels of public employment.

Heller and Tait (1983) and Schiavo-Campo, et al. (1997a, 1997b) provide a summary of the results of various econometric studies undertaken primarily in the 1970s and early '80s as well as their own, which relate a number of measures of public employment to variables such as countries' education levels, urbanization levels, amount of financing available to governments, dependency rates, and types of economic systems. Heller and Tait (1983), for example, find that on a per capita basis the type of economic system does not appear to have a significant impact on public employment.[21] Thus, the degree to which a state's economy is centrally planned was not found to affect per capita public employment levels. Instead, the closest statistical relationship they find is that between public employment and per capita income.

A study of the United Nations Program in Public Administration and Finance (2000) reports evidence of another important determinant of public employment: economies of scale in the provision of public services. It contends that economies of scale help to explain, for example, the large magnitude of public employment in some northern European countries relative to countries in Southern Europe, where population density is markedly higher. To summarize the relationship, if two countries have equal per capita incomes and land areas and one has twice the population of the other; the country with twice the population of the other requires *less* than twice the number of public employees.

A determinant of public employment suggested by Dani Rodrik (1997) is relevant particularly to less developed and developing countries. Rodrik's findings suggest that when a country's economy is exposed to a high level of external risk , governments supply a relatively large number of public sector jobs in order to try to offset it. Rodrik provides this explanation as an alternative to evidence, often anecdotal, that suggests a strong positive relationship between public employment and rent-seeking behavior, i.e., distribution of public sector jobs within a government's political spoils system.

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[21] Schiavo-Campo, et al., citing Heller and Tait (1983) assert "…Heller and Tait (1983) found that, in addition to the positive relationship between GDP per capita and government employment, employment was higher in centrally planned economies (obviously to be expected)…" (1997a, p. 14). However, part of Heller and Tait's conclusions are that: "…on a per capita basis, the type of economic system does not appear to have a significant impact on the size of government or public sector employment (1983, p. 15). Heller and Tait did find that the more centrally planned the economy, the higher the share among the nonagriculturally employed of employees in the state and local government, nonfinancial public enterprise sector, general government, and public sector (p. 15). Therefore, the type of economic system proved to be an important factor in explaining the share of public employment in the nonagricultural sector employment, but not in the population as a whole.

While a variety of factors are known to influence public employment, using the data from the Profiles we attempt to confirm a relationship between per capita public employment and three specific variables. Two of these variables have proven to be significantly correlated with public employment, in particular with regard to developing countries (Schiavo-Campo, et al., 1997a, p. 18). They are per capita income and relative wages. The third variable we test is the unemployment rate. Analysis of the association between per capita public employment and the unemployment rate were inconclusive (see Figure 15). Confirming the findings of previous studies, the analysis of the profile data shows a significant relationship between per capita public employment and both per capita income and relative wages. Figure 13 shows the positive relationship between public employment and per capita income, while Figure 14 shows that a rise in per capita public employment tends to be accompanied by a decline in relative wages. Figure 15 presents the ambiguous effect unemployment rates have on public employment levels. More specifically, the analysis of the profile data reveals the following:

- Wagner's Law is confirmed given the positive relationship exhibited between per capita public employment and per capita GNP. [22] Figure 13 shows a scatter plot with public employment as a percentage of the population plotted on the vertical axis. GNP per capita is plotted on the horizontal axis. The figure shows that countries with higher per capita incomes (Group 1 countries) tend to have larger public sectors, measured in terms of per capita public employment. There are exceptions, of course. The per capita public employment levels of Chile and Brazil are notably lower than predicted by the per capita income levels. Brazil's large population in absolute terms, which contributes to economies of scale in the provision of government services, may explain part of this. In Chile, it seems clear that deliberate policy, including the privatization of public enterprises and the use of private organizations to provide some important services typically provided by government, entails a smaller government. In Group 2, the countries of Guyana and, particularly, Suriname have high public employment levels relative to per capita income, suggesting that public employment has expanded more rapidly than relative levels of development.

- Figure 14 confirms the negative relationship that tends to exist between per capita employment and relative wages.[23] The tendency for relative wages to decline as per capita public employment expands has significant policy implications. The association suggests that relatively small public sectors (in

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[22] Schiavo-Campo, et al. (1997a, p. 17) find that the test of Wagner's Law using per capita public employment and per capita income does not hold for OECD countries, implying that the tendency of government employment to expand with per capita income may be "counteracted by deliberate policy," or that Wager's Law becomes "inoperative beyond a certain level of development—or both."

[23] Due to variations in the samples of countries considered, Schiavo-Campo, et al. (1997a, 1997b) use central government as a proxy for government employment; while we use total public sector employment. When data for total public sector is lacking, the next highest level of government for which data is available is used.

terms of employment relative to population) tend to be more adequately remunerated. Thus, it indicates that a reduction of public employment relative to population *may* result in higher relative wages. However, the methodological difficulties of international wage comparisons preclude the use of this measure alone to assess the appropriateness of reform policy.

Given the complexity of forces determining the levels of public employment and wages and the difficulties of making international comparisons, in-depth country-specific study is indispensable to the formulation of appropriate policies. Nevertheless, the analysis of statistical associations focuses attention on particular areas of concern and provides a starting point for the discussion of reform priorities and strategies.

Figure 13. Higher per capita income is associated with higher levels of public employment.
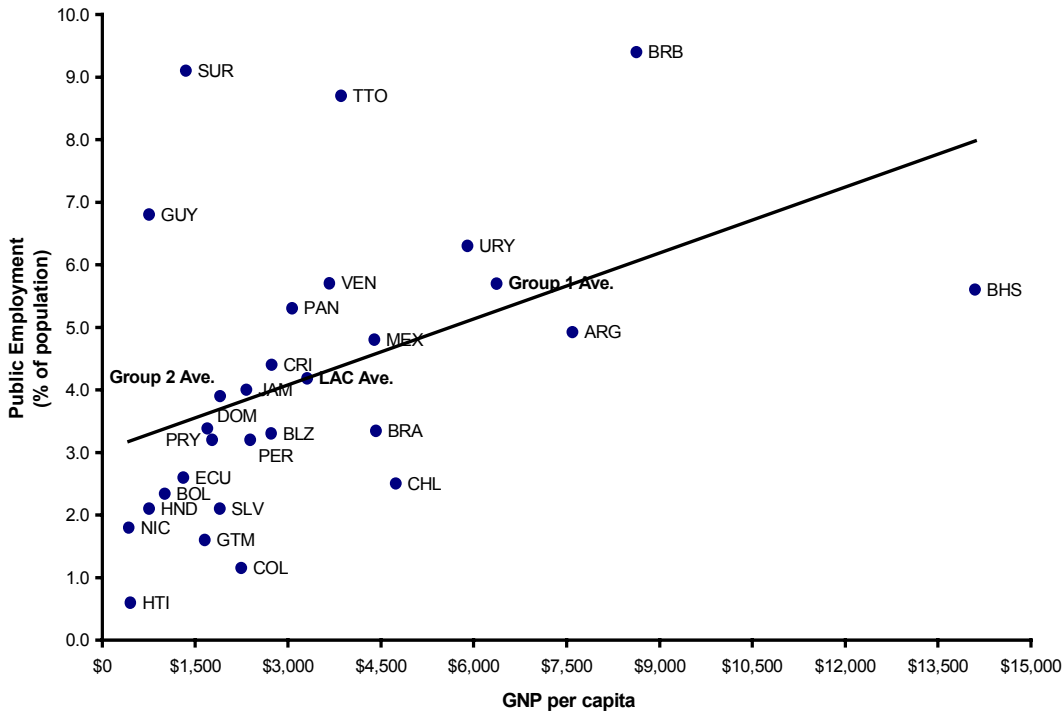
Employment and wage data used in Figures 13-15 are from the highest level of government available and for 1999 or latest year available. LAC, Group 1, and Group 2 averages include data from the highest level of government available for each country.

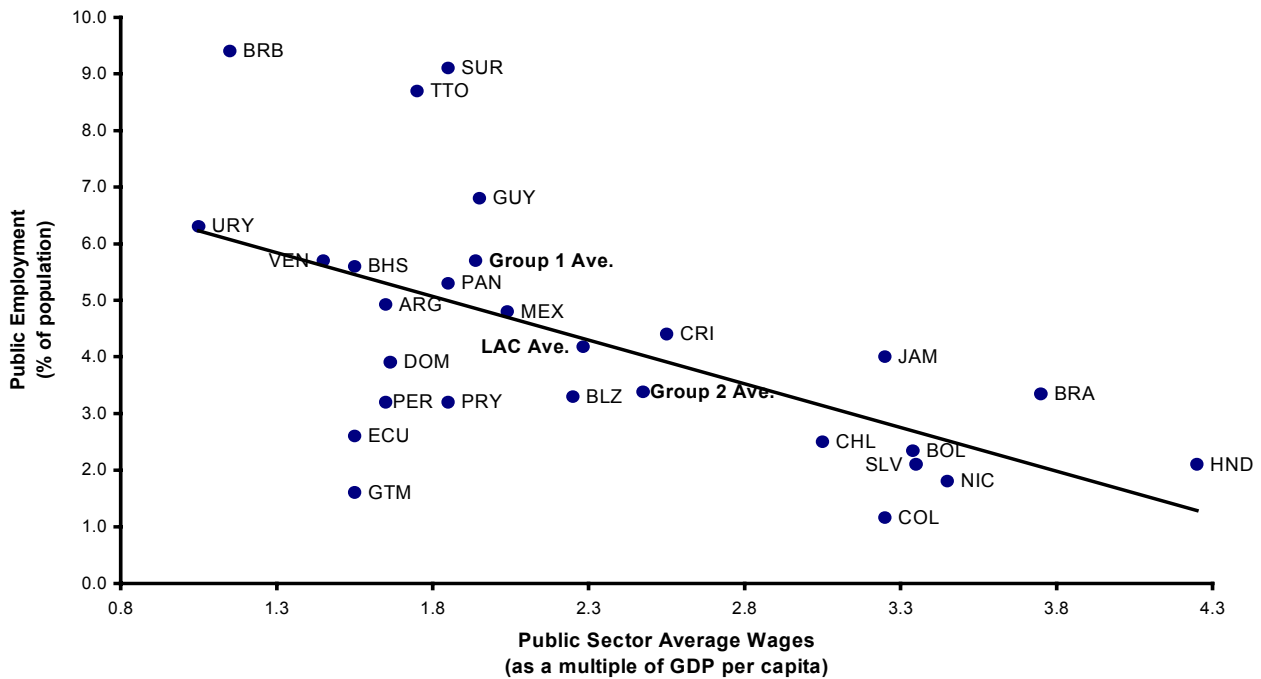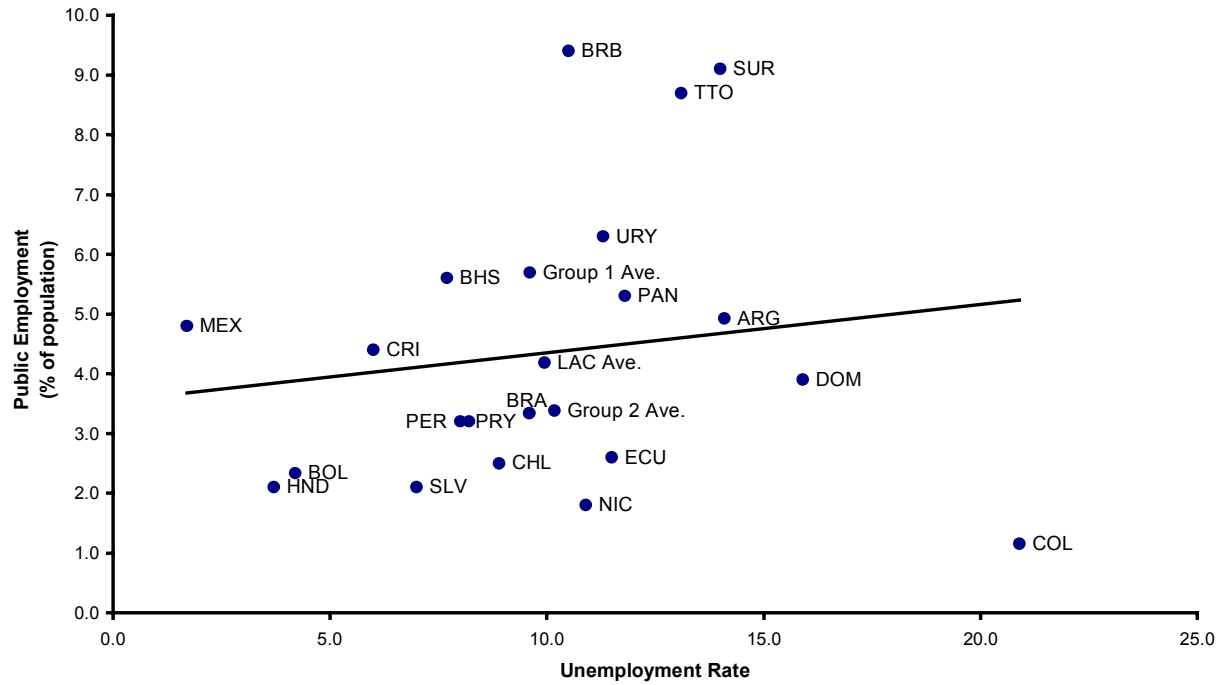**Figure 14. Lower public sector wages are associated with higher levels of public employment.**

Figure 15. Higher unemployment rates are not significantly associated with levels of public employment

9. CORRELATIONS: CLEAN, EFFECTIVE GOVERNMENT AND THE IMPLICATIONS OF A MERIT-BASED CIVIL SERVICE

Just as the statistical relationships found between per capita public employment and particular variables serve to refute or substantiate claims and to highlight problem areas, statistical associations can be used for the important task of pointing to what may or may not influence clean, effective government. Ideally, empirical studies serve as guides to "rightsizing" the civil service and fine-tuning wage policy in order to establish a motivated, professional bureaucracy that facilitates economic growth and the effective provision of public goods. However, the various empirical studies investigating the determinants of clean, effective government have at times arrived at somewhat contradictory conclusions.

For example, Rauch and Evans (2000), using a sample of 35 less developed countries, find no significant correlation between competitive salaries and corruption in government as measured by Political Risk Services' *International Country Risk Guide* (ICRG). Van Rijckeghem and Weder (2001) test the association of wages and corruption using a data set of 31 developing and lower-income OECD countries. Unlike Rauch and Evans (2000), they determine a statistically significant negative association between civil service wages, measured as a multiple of manufacturing wages, and corruption measured by the ICRG. However, results in Van Rijckeghem and Weder (2001) that rely on time-series data determine that an increase in wages has no short-term effect on levels of corruption. Figure 16 shows that for our LAC sample, there appears to be no significant relationship between civil service wages and corruption, in this case measured by the Graft Index constructed by Kaufmann, et al.[24] (2002).

Figure 17 shows that there also is no clear association between relative wages and government effectiveness, as measured by the Government Effectiveness Index of Kaufmann, et al.[25] (2002). Assuming that relative wages fail to influence levels of corruption and government effectiveness, determining what factors do contribute to clean, effective government is key, given the importance of good bureaucratic performance to economic development and the provision of public goods and services.

To this end, Rauch and Evans (2000) test the influence of competitive salaries, internal promotion criteria, career stability, and meritocratic recruitment on bureaucratic

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[24] The Graft Index developed by Kaufmann, Kraay, and Zoido-Lobatón is described in their papers: "Aggregating Governance Indicators" (1999a), Governance Matters (1999b), and " Governance Matters II: Updated Indicators 2000/1" (2002). To summarize, they measure the concept of Graft using a series of indicators like the effect of corruption on the attractiveness of country as a place to do business, corruption in the political system as a threat to foreign investment, frequency of cases of corruption among public officials, and perceptions of corruption in civil service.

[25] The Government Effectiveness Index developed by Kaufmann, Kraay, and Zoido-Lobatón is described in their papers: "Aggregating Governance Indicators" (1999a), Governance Matters (1999b), and " Governance Matters II: Updated Indicators 2000/1" (2002). To summarize, they measure the concept of Government Effectiveness using a series of indicators like quality of government and public administration, policy stability, efficiency of government in delivering services, competence of public servants, and political pressures on the civil service.

performance within the core economic agencies of 35 less developed countries. As mentioned above, competitive salaries were not found to be associated with effective bureaucratic performance. In fact, from the four factors tested, meritocratic recruitment[26] alone proved to be significantly correlated to effective state bureaucracy.

To test the relationship between the use of merit criteria in promotion and hiring and the absence of corruption and the existence of an effective state bureaucracy using our sample, we developed an equal-weight index of questions from the Regional Policy Dialogue's Questionnaire on Civil Service Reform. The index was constructed from responses to several questions related to the predominant criteria and procedures followed in the recruitment and selection of new employees in the public administration, as well as the degree to which performance evaluations and their results are used in the promotion of employees.[27] Our analysis produced the following key findings:

- First, our results provide evidence of the association between merit and the control of corruption, measured by the Graft Index (Kaufmann, et al., 2002) Figure 18 shows a scatter plot with the Graft Index (higher index values mean less corruption) plotted on the vertical axis and the Merit Index on the horizontal axis. The graph shows that countries with lower levels of corruption in government have tended to have more meritocratic civil services. Conversely, countries with relatively high corruption levels have tended to have less meritocratic civil services. Chile, for example, ranks at the top of both the Graft Index and the Merit Index. Nicaragua and Honduras virtually share the lowest place on both indices. In Group 2 only Panama and Costa Rica score relatively high on the Merit Index. In the region as a whole Costa Rica shares the top spot on the Merit Index with Chile, Trinidad and Tobago, and Brazil. However, unlike Chile, Costa Rica, and Trinidad and Tobago, Brazil and Belize do not have similarly high scores on the Government Effectiveness Index. Overall, Group 2 countries average significantly lower than Group 1 countries and somewhat lower than the LAC region as a whole on both indices. Figure 18 shows that within Group 1, the countries of Brazil, Argentina, and Venezuela fall below the trend line, indicating that they have higher levels of government corruption than would be predicted by their scores on the Merit Index.

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[26] Meritocratic recruitment, in this case, means that public employees enter the Civil Service via a formal examination or through the attainment of a university or post-graduate degree.

[27] Specifically, experts were asked to choose whether selection and entry criteria included: (i.) selection procedures based on competition, objective and transparent criteria, competent and neutral selection panels, and other guarantees to ensure that the best candidate is hired; (ii.) relatively informal procedures, which include some objective criteria (such as examination of the candidates' curricula, interviews, consideration of the match between the open position and the candidate); (iii.) selection procedures based on reasons of confidence, with scant regard for the candidates' merits; and (iv.) a mixed system, in which some posts are covered through competition but most involve direct appointment with no competition. Regarding promotion procedures experts were asked to identify whether performance evaluations were a determining factor, a factor of "certain weight," a marginal factor only, or not a factor.

- Figure 19 considers the relationship between merit in the civil service and government effectiveness. The Government Effectiveness Index of Kaufmann, et al. (2002) is plotted on the vertical access, and the Merit Index developed from the questionnaires is plotted on the horizontal axis. As in Figure 18, Chile ranks highest on both indices, and with few exceptions Group 1 countries garner relatively higher index scores than Group 2 countries. Venezuela is an obvious exception within Group 1, with a much lower level of government effectiveness than predicted by its score on the Merit Index. Costa Rica is an exception within Group 2, ranking significantly higher than other Group 2 countries on both indices. At the low end of both indices are a loose cluster of Group 2 countries, comprising Nicaragua, Honduras, El Salvador, and Bolivia.

While the empirical evidence presented in Figures 18 and 19 does not establish causality, it is consistent with other studies showing the importance of merit to clean, effective government. In terms of policy implications, the results shown in Figures 18 and 19 suggest that the successful implementation of merit-based systems in the selection, entry, and promotion of civil servants may foster a reduction in the levels of government corruption and an increase in levels of government effectiveness. These implications are especially important given that LAC countries rank below the world average, and lag far behind the developed countries and East Asia, in terms of government corruption and government effectiveness (IDB, 2000, p. 26 citing Kaufmann, et al. (1999a)).

In addition, successful implementation of merit-based civil service systems in LAC countries may influence more than government corruption and government effectiveness, a conclusion supported by for a global sample by Rauch and Evans (2000). Figures 20 and 21 examine the relationship between merit in the civil service and two additional variables: (i.) public confidence in the public administration, and (ii.) countries' capacities for achieving sustained economic growth.

Figure 20 shows a scatter plot of the confidence in the public administration (Latinobarómetro, 2001) and the Merit Index. It is evident that citizens of countries with merit-based civil services tend to have more confidence in their public administrations. This figure shows that Group 2 countries tend to occupy less favorable positions in terms of both measures than do Group 1 countries. Panama and Costa Rica, both with relatively strong scores on the Merit Index, are exceptions within Group 2. Their citizens have more confidence in the public administration than is average for the region. Two other exceptions are Colombia and Argentina. They score relatively high on the Merit Index, but fail to earn the levels of citizen confidence in public administrations that would be predicted.

Figure 21 shows a scatter plot with the Growth Competitiveness Index[28] developed by the World Economic Forum plotted on the vertical axis and the Merit

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[28] As footnote 10 explains, the GCI Index developed by the World Economic Forum (WEF) is described in *The Global Competitiveness Report* 2000. To summarize, the GCI is composed of three separate

Index on the horizontal axis. The resulting fit is tight, with countries' Merit Index values more or less predicting their values for the Growth Competitiveness Index, defined as a measures of the capacity of countries to achieve high rates of sustained economic growth. High scores on the Merit Index for Chile, Costa Rica, and Trinidad and Tobago are associated with capacities for sustained economic growth well over the regional average and above the overall average for Group 1. In comparison, low scores on the Merit Index for Honduras and Nicaragua correspond with the two least favorable positions in terms of the capacity for growth. Thus countries that have introduced merit-based civil service systems tend to have relatively greater capacities for achieving sustained economic growth.

indices: the Economic Creativity Index that measures economically effective innovation or effective transfer of technology; the Finance Index that measures an efficient financial system with high rates of savings and investment; and the International Index that measures greater economic integration of the country with the rest of the world (WEF, 2000, p. 17).

Figure 16. There is not a significant association between public sector wages and government corruption.
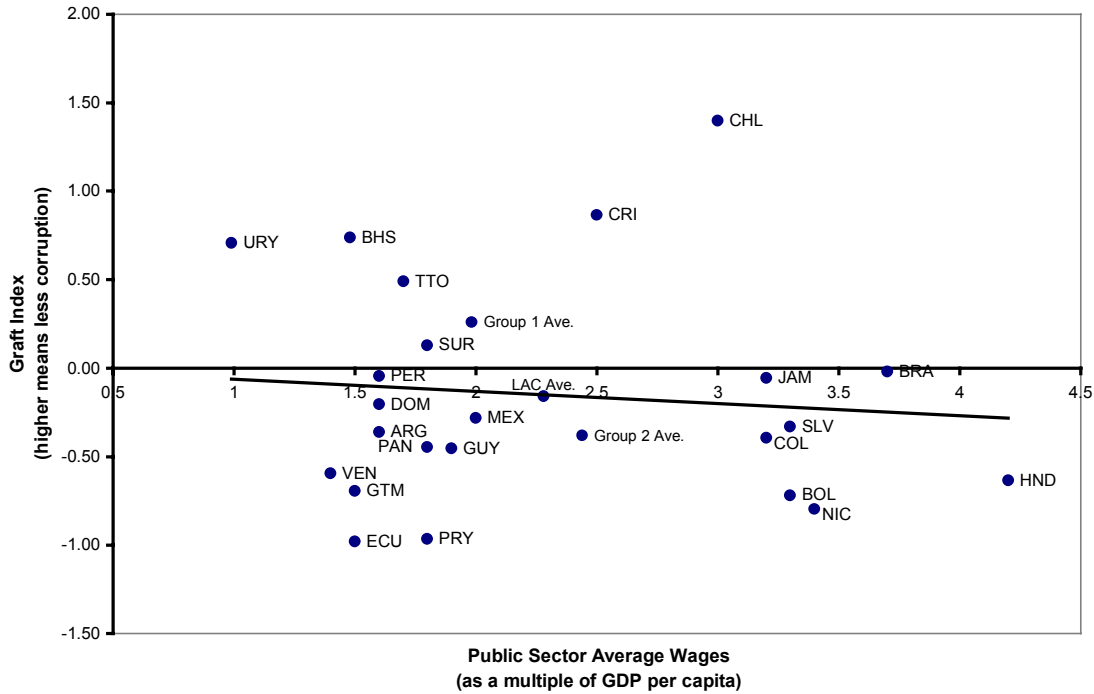
Wage data used in Figures 16-17 are from the highest level of government available and for 1999 or latest year available. LAC, Group 1, and Group 2 averages shown in Figures 16-21 include data from the highest level of government available for each country.

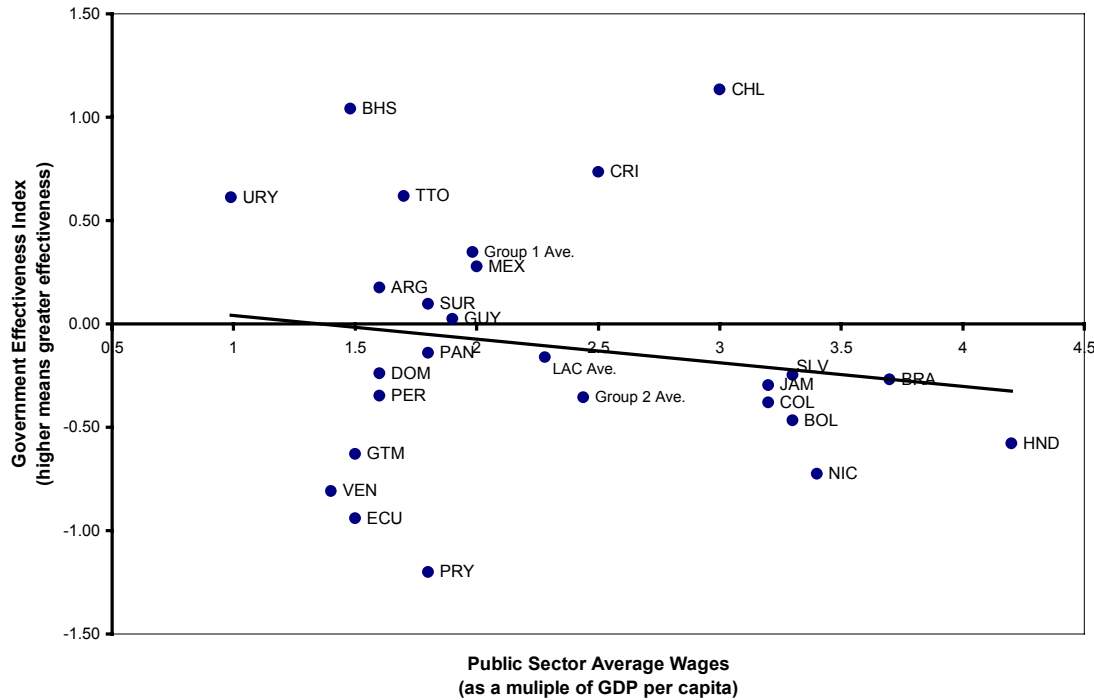**Figure 17. There is not a significant association between public sector wages and government effectiveness.**

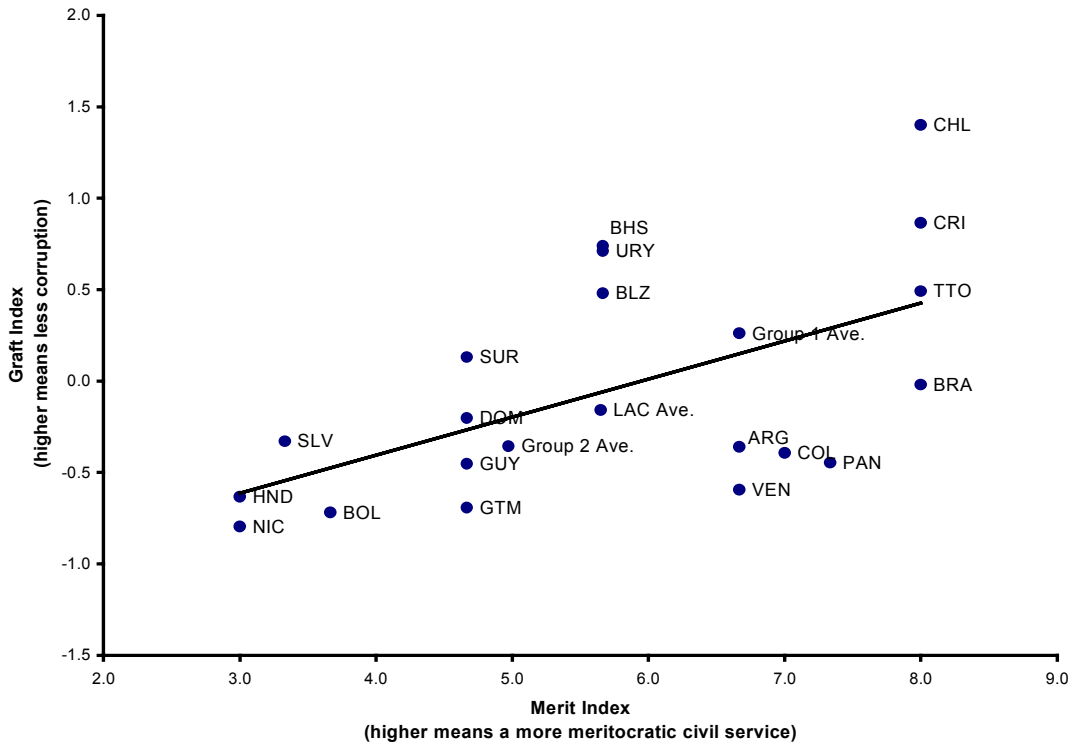**Figure 18. A meritocratic civil service is positively associated with less corruption in government.**

Figure 19. A meritocratic civil service is positively associated with government effectiveness.
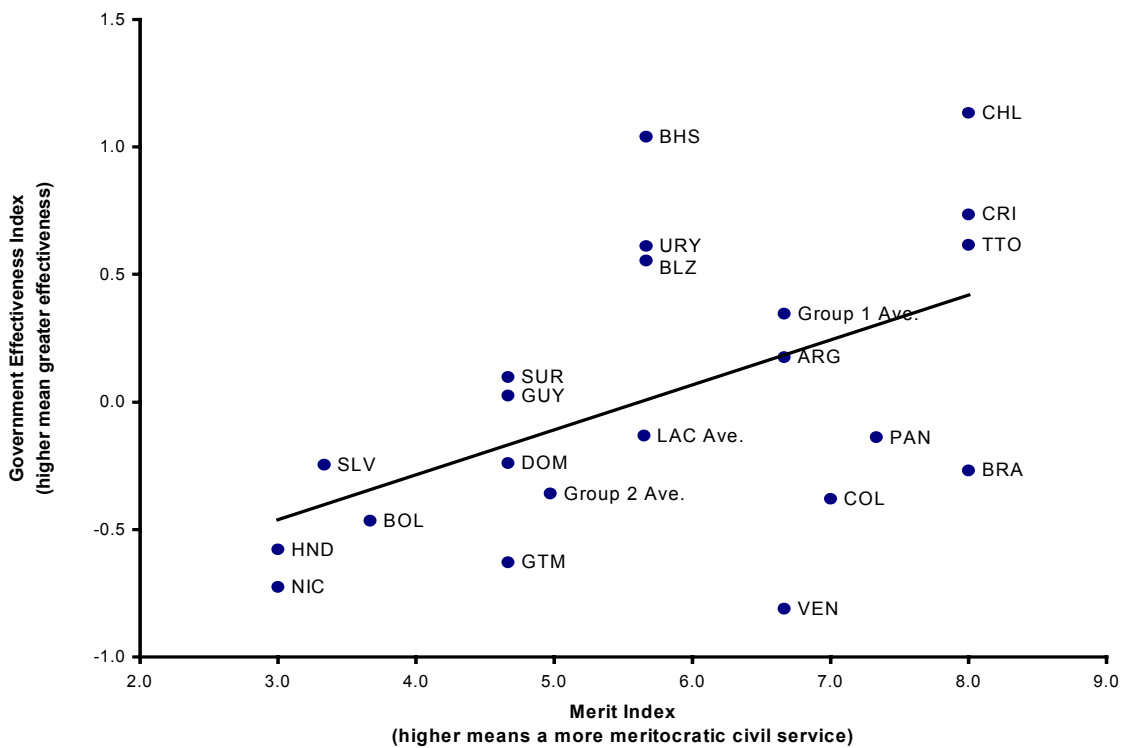
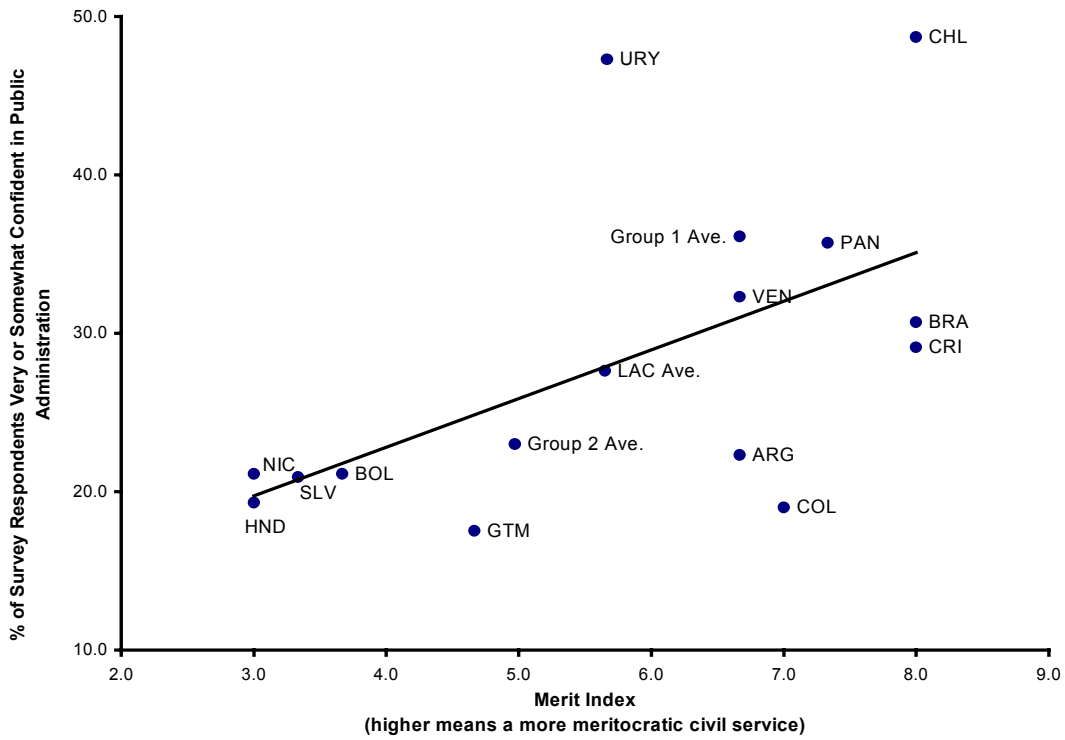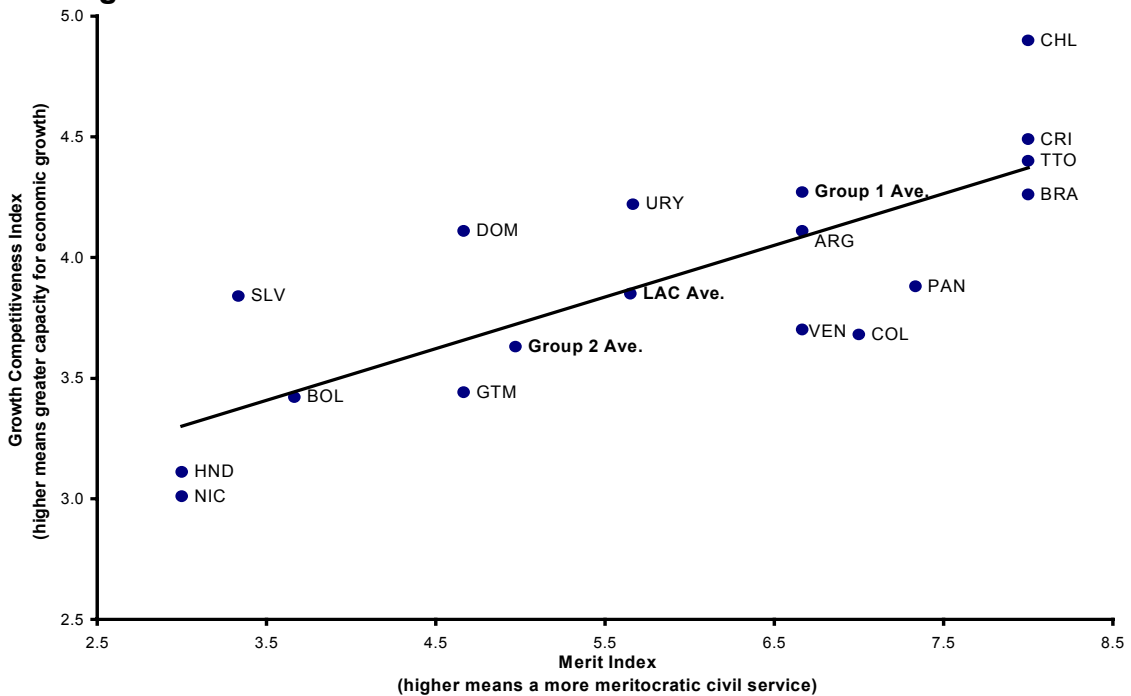**Figure 20. A meritocratic civil service is positively associated with confidence in the public administration.**

Figure 21. A meritocratic civil service is positively associated with the capacity to achieve high rates of sustained economic growth.

10. A FINAL WORD

Drawing conclusions in the area of public sector pay and employment is an ambitious task. Because quantitative data on the structure, pay, and scope of public employment may lack reliability and comparability or may not exist, conclusions are inevitably accompanied by necessary caveats.. Even when the reliability of data is relatively high, the fact that statistics show only part of the picture precludes the use of quantitative data alone to diagnose problems in a country's public sector or to promote particular reform policies.

Nevertheless, data collection efforts, like this study, answer a very real and necessary demand for cross-national quantitative information on public employment. Making proper policy decisions remains contingent upon the capacity to develop diagnoses based in part on aggregate quantifiable data. While most conclusions drawn from public employment data remain tentative, the results of this study are fairly clear in terms of size of the public sector, magnitude of public sector wages, trends in public employment and pay, and the potential implications of merit-based civil service systems.

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ADDITIONAL SELECTED WEB SITES

1. <<u>http://www.clad.org.ve/siareweb /tamaes.html</u>>; CLAD
2. <<u>http://www.ilo.org</u>>; LABORSTA Database, ILO Web site
3. <<u>http://www.latinobarometro.org</u>>; *Latinobarometro*

4. <http://webnet1.oecd.org/oecd/pages/home/ displaygeneral/ 0,3380,EN-document-notheme-9-no-1-8139-0,00.html>; Public Sector Pay and Employment (PSPE) Database of OECD/PUMA

5. <http://www.worldbank.org/data>; World Development Indicators on the World Bank Web site

6. <http://www.worldbank.org/research/growth>; Governance Indicators developed by Kaufmann, et al. (1997/8 and 2000/1)

APPENDIX: 26 CIVIL SERVICE PROFILES

Profile Sources

- CLAD web site
- Economic Commission for Latin America and the Caribbean (ECLAC)
- IDB Basic Socioeconomic Data web site
- IDB Regional Policy Dialogue Questionnaire on Civil Service Reform
- ILO Yearbook of Labor Statistics 2000
- IMF Government Finance Statistics Yearbook 2000
- IMF International Financial Statistics Yearbook 2000
- Latinobarometro
- Stockholm International Peace Research Institute (SIPRI) and altapedia.com for information on military personnel
- UNDP Human Development Reports 1997 and 2000
- World Bank Administrative and Civil Service Reform web site
- World Development Indicators on the World Bank web site

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EL SALVADOR: IMF Staff Country Report No. 99/145; World Bank Policy Research Working Paper 1806

GUATEMALA: IMF Statistical Annex, November 30, 1999; Statistical Bulletin on the Bank of Guatemala Web site

GUYANA: IMF Staff Report for the 1999 Article IV Consultation; IMF Recent Economic Developments, April 28, 1999; IMF Recent Economic Development, January 2001; World Bank "The Experience and Perception of Public Officials in Guyana"; World Bank Policy Research Working Paper 180

HAITI: IMF Staff Country Report No. 01/04; Windows on Haiti Web site

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PANAMA: IMF Staff Country Report No. 01/41; Statistics and Census Administration, Labor Statistics, Volume II

PARAGUAY: IMF Staff Country Report No. 00/51; World Bank Policy Research Working Paper 1806

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