

# Government employment and pay:

A survey of the available data on the relative importance of public employment in different regions of the world

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One aspect of the growth of the government in recent decades has been the emergence of the public sector labor force as a key element in the economies of both developed and developing countries. This is manifested in several ways. In countries where government employment occupies a significant place in the modern labor force, the government's demand for skills and its wage policies are likely to have an important influence on wages throughout the economy and on the distribution of income. Since wages are a significant share of government expenditure, wage and employment decisions are often central factors in the adjustment of budgetary policies. Government employment is frequently seen as a policy instrument for achieving macroeconomic objectives, both in the short and medium term. Government wages and salaries also have an immediate impact on the economy through their claim on the government budget and thus indirectly on prices, investments, and the balance of payments.

Yet it is remarkable how little information is readily accessible on public sector employment and pay in most countries. The work on which this article is based relied almost entirely on the data drawn from 64 developing countries and 21 countries belonging to the Organization for Economic Cooperation and Development (OECD). The range and depth of these national sta-

tistics proved extremely varied. International comparisons are further complicated by lack of agreement on how to solve such conundrums as defining the unit of government or the provision of public services or measuring public sector employment. Comparisons of wages and salaries, too, are complicated by special allowances for food, transport, and housing, and further biased by the payment of bonuses and special pension arrangements.

This article does not solve definitively these knotty problems but it pulls together, as far as we know, the best available statistics and presents some of the more interesting results on patterns of public sector employment and wages. It is hoped that by establishing the importance of this topic, it will stimulate further debate and analysis.

## How large is government?

The share of government employment in total nonagricultural employment is an important indicator of the likely impact of public sector wage policies on modern sector wage rates, the distribution of income, and the structure of output. It appears that the threshold for potential leverage is a public sector employment of about 20–25 per cent of nonagricultural sector employment; over that proportion, public wage awards seem to affect national wage rate determination, under it, the leverage appears less important.

The clear message from the study's statistics is that government wage policy is more likely to have a significant impact on overall remuneration of nonagricultural employees in developing countries, where total public sector employment averages 44 per cent of nonagricultural employment (Table 1). In some countries—Benin, Ghana, and Zambia, for instance—the ratio is over 70 per cent. The ratio in the OECD countries implies less leverage with public sector employment at about 24 per cent.

The proportion of government employees to population is a rough measure of the magnitude of public services provided, though not of their quality or efficiency. The OECD countries have, on average, seven government employees per hundred

inhabitants at the central, state, and local governmental levels (excluding employees of nonfinancial public enterprises) in contrast to only three in the developing world.

Typically, the developing countries are much more centralized than developed countries; on average, their central government constitutes about 85 per cent of total government employment, compared with only 42 per cent in the OECD countries. The difference primarily reflects higher employment at the state and local government levels in the OECD countries. Nonfinancial public enterprises loom much larger in developing countries—where their share of total public sector employment averages approximately 29 per cent, compared with 17 per cent in the OECD countries. One might conclude that the greater fragmentation of authority over wage decisions between the central and local authorities in the developed countries would limit the impact of government wage policies on the private sector relative to developing countries, where the central government is so much more dominant. The extent of central authority over nonfinancial public enterprise wage policies is likely to depend on the legal structure and the relative autonomy of enterprises.

These results are paralleled in the distribution of wages and salaries by level of government. About 70 per cent of total general government wages in federal economies is paid at the state and local governmental levels. But the share of the local government wage bill is also strikingly high in many countries normally considered as centrally dominated. For instance, in Japan, 69 per cent of the government wage bill is paid to local government employees and almost 70 per cent in Denmark. In some developing countries, the wages paid by nonfinancial state enterprises absorb almost 50 per cent of total public sector wages; Brazil and Zambia are examples. This emphasizes the importance of wage settlements in the public enterprise sector as well as at the local authority level.

Some useful facts emerge from the figures relating public sector wages to national income and gross domestic product.

*This article is based on a longer study on the same topic, published by the Fund as Occasional Paper No. 24 and is obtainable from the Publications Unit. See page 9 for ordering details.*

# some international comparisons

Table 1  
Relative size of government employment

	OECD countries	Developing countries			
		Total sample	Africa	Asia	Latin America
As per cent of nonagricultural employment					
Central government	8.7	23.4	30.8	13.9	20.7
State and local government	11.6	4.0	2.1	8.0	4.2
General government	19.2	26.0	33.0	22.2	20.7
Nonfinancial public sector enterprises	4.1	13.9	18.7	15.7	5.5
<b>Total public sector employment</b>	<b>24.2</b>	<b>43.9</b>	<b>54.4</b>	<b>36.0</b>	<b>27.4</b>
As per cent of total population					
<b>Total public sector employment</b>	<b>9.0</b>	<b>3.7</b>	<b>2.9</b>	<b>4.6</b>	<b>4.8</b>

Source: The full data set, as well as standard deviations for each of these estimators, is provided in the longer study cited on the first page of the article.

Table 2  
Relative level of government wages  
(In per cent of total wages in the economy)

	OECD countries	Developing countries			
		Total sample	Africa	Asia	Latin America
Central government	8.7	19.8	22.6	17.2	14.7
State and local government	11.6	3.6	1.7	...	6.2
General government	20.7	20.0	24.8	...	17.0
Nonfinancial public sector enterprises	4.6	8.4	8.6	...	9.7
<b>Total public sector</b>	<b>22.9</b>	<b>32.0</b>	...	...	...

Source: The full data set, as well as standard deviations for each of these estimators, is provided in the longer study cited on the first page of the article. In this table, the means for the more general units of government do not equal the sum of the means of the component units, reflecting differences in the size of each sample of observations. ... Indicates data not available.

developed. The results show clearly that on a per capita basis the number of government employees at the central, state, and local levels rises with per capita income, particularly for countries with per capita income above US\$800. This is despite the known tendency of developed countries to rely on transfers and subsidies and on the use of consultants in the provision of such services. However, in terms of our measure of potential "leverage," the share of general government employees in total nonagricultural employment declines up to per capita incomes of \$1,400, but then rises after that point, reflecting the relatively greater importance of state and local government employees at higher per capita income levels. The strength of the relationships is remarkable, given the cross-sectional nature of the data. The larger the population, the lower the proportion of the population employed by central government and the less the impact on nonagricultural sector employment. Surprisingly, state and local government employment per capita is not affected by the size of a country's population.

## How high are government wages?

The most obvious, and, more important, the most readily calculable, measure of the relative pay of civil servants is the ratio of their average wage to GDP per capita (although the average includes military wages and is probably understated relative to civilian earnings). The variation of this ratio is remarkable (Table 3). Whereas in the OECD countries the government average wage is almost twice per capita income, in the developing countries it is more than four times as large, and much larger in some countries. In Burundi, a civil servant earns 15 times the average per capita income. Undoubtedly, such factors as the degree of dualism in an economy, the educational content of government sector jobs, the relative importance of expatriates in the government workforce, and the demographic structure of the population contribute to the difference between developed and developing countries in this ratio. The results of a test aiming to explain these vari-

It seems that even where civil servants represent a high proportion of nonagricultural employment, they may not have a particularly large claim on total GDP, particularly in the more agriculturally oriented economies. In India, for example, central government wages account for only about 4 per cent of GDP, though central government employees constitute 20 per cent of nonagricultural employment. Central government wages tend to have a relatively similar share of GDP in the developing countries and the OECD group, 8 per cent relative to 5 per cent, but the share of state and local

governmental wages, which averages over 6 per cent among the OECD countries, is below 1 per cent in the less developed countries. An alternative perspective is to look at government wages as a per cent of total wages in the economy (Table 2).

## Determinants of government size

In the more detailed study referred to on the first page, statistical tests were made to ascertain whether the magnitude of services provided directly through government employment increased as a country

ations for 44 countries in the sample suggest that this ratio rises with per capita income for countries with average incomes less than \$600. Beyond that, there is no statistically significant relationship between this ratio and per capita income.

Another measure of the level of government wages is the ratio of the average wage in central government to the average wage outside—for example, in state and local governments, nonfinancial public enterprises, and the private nonagricultural wage sector. This comparison relies on the relative weight of central government wages and employment in total wages and nonagricultural wage employment in the economy, respectively. In most countries, developed as well as developing, central government employees seem to be better paid on average than employees outside the central government. However, the difference between the average wage of employees at all levels of general government (that is, central and state and local government) and the private sector is markedly smaller. An interesting anomaly is Zambia, where central government wages appear to be only one third those in the private sector.

### The structure of government wages

The structure of wages within government has broad ramifications for many important policy issues. The spread between the bottom- and top-paid civil servants and among occupational categories determines the incentives for productivity and advancement within the government and can affect relative wages and employment outside.

The limited data on average salaries at different levels of the public sector show that, on average, central government employees are almost uniformly better paid than state or local government employees, while nonfinancial public enterprises tend to pay best of all. (Some notable exceptions to this last rule include Benin, Canada, India, Italy, and the Republic of Korea.) In part, this difference in pay may reflect differences in the skill mix requirements across levels of government.

Another measure of wage spread was calculated by comparing the starting salary for specific occupations with that for a clerical officer. Although it would be unreasonable to expect every country to have the same differences between positions, the extent to which they vary is nevertheless striking. In many cases, the reasons are not readily apparent. Why, for instance, does a primary school teacher in Cyprus earn 48 per cent of a clerical officer's salary, while one in New Zealand makes 414 per cent?

**Table 3**  
**Average government wages: some comparisons**

OECD countries	Developing countries			
	Total sample	Africa	Asia	Latin America
	Ratio of average central government wage to GDP per capita			
1.74	4.44	6.05	2.90	2.94
	Ratio of average central government wage to average wage in manufacturing sector			
1.25	1.75	1.58	...	2.16
	Ratio of average central government wage to implied average wage outside the central government <sup>1</sup>			
1.13	1.16	0.80	...	1.28

Source: The full data set, as well as standard deviations for each of these estimators, is provided in the longer study cited on the first page of the article.  
... Indicates data not available.  
<sup>1</sup>Including the state and local government, nonfinancial public enterprise, and private sectors.

Why does a doctor in Sweden make 154 per cent of the salary of a clerical officer, and one in Kenya 708 per cent? There are also wide and inexplicable variations in relative salaries in the same profession. For example, in some countries, the difference in the wages of primary and secondary school teachers is very small, say, from zero to 12 per cent, yet, in others, it is closer to 50 or 60 per cent—in Kenya, a secondary school teacher appears to be paid almost three times as much as a primary school teacher.

Yet some variations may be more predictable; countries with major dependence upon agriculture, such as Kenya, tend to reward their agriculture officers more gen-

erously than others, such as the Bahamas, Canada, Cyprus, and El Salvador. The relative scarcity of a particular skill category in a country may also explain some of the cross-country variations in salaries across positions.

To measure the "equity" of government salaries, "Lorenz" curves on the civil service salary structures of countries were calculated to measure the cumulative distribution of the number of employees below different salary levels and the cumulative level of total salaries paid to such employees. The degree of inequality in government will influence the relative impact of such measures to control government wage expenditures as a general or selective freeze on vacancies. The greater the inequality, the greater the necessity that the freeze on vacancies cover employees at the upper end of the salary range if its fiscal impact is to be significant.

The analysis shows large variations in the degree of inequality in the overall salary structure of different countries. On balance, developed countries tend to have a more egalitarian wage structure, with only 15 per cent of wages earned by the top 10 per cent of employees, in contrast to 23 per cent in the developing countries. Conversely, the bottom 70 per cent of employees earn 57 per cent of wages in the OECD countries, compared to 52 per cent among developing countries in our sample. Most of the more developed countries group slightly more of their civil servants in the middle of the salary range, while the developing countries tend to skew their employment more toward the lower end of the range.

### Employment and wages by function

To evaluate whether certain sectors are excessively large or small, or excessively well or badly paid, estimates were made of central government employment in various sectors. In order to allow for differences in federal structure, an adjusted measure of central government employment was estimated, which includes state and local government employees in the police, health, and education sectors. The data showed, surprisingly, that the mean number of administrators per 100 inhabitants was remarkably similar for developed and developing countries. African countries tend to have the highest administrative burden, and Asian countries the lowest, while within the OECD, the most overadministered country (by this measure) is easily the United Kingdom, with 0.78 administrators for every one hundred people in the population. Countries that have been more influenced by the British Commonwealth system of government appear to employ



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Photos by Joseph J. Diana for F&D

# Recent staff studies

more government civil servants in administration than other countries, but this could be the outcome of a domestic definition of "administration." Those employed in administration also appear to be paid rather more than the average for the public service, particularly in developing countries.

The proportion of adjusted central government employees involved in education is dramatically higher in the OECD countries than in the developing world—the mean for the OECD is 39 per cent in contrast to only 29 per cent in developing countries. Belgium commits 58 per cent of its central government staff to teaching, for example. The number of employees per capita in the education and health sectors in the OECD countries is three to four times that in the developing countries (though there is considerable variance in the health statistics, reflecting institutional differences in the role of the government in this sector).

For both defense and police, mean levels of employment per capita are higher in the developing countries than in the OECD. In the developing countries about 21 per cent of the adjusted central government work force is likely to be committed to defense and 12 per cent to police, whereas the comparable figures for the OECD are about 16 per cent and 7 per cent. But without Cyprus, Korea, and Singapore in the developing country group, the developed countries emerge as employing twice as many defense personnel per capita. For the countries where defense data are available, soldiers and civilian defense employees do not appear to be systematically paid markedly lower salaries than those in the other functional sectors, despite compulsory military service in some countries. On average, police and defense forces receive comparable pay in the sample of developing countries. In the OECD, police are better paid, while in some developing countries—Argentina and Sri Lanka—they appear to be paid much less than the defense forces, and in some—Korea and Swaziland—they are paid far more.

Perhaps the most important implication of this study is that our level of ignorance on a vitally important area of public sector policy remains astonishingly high. Governments should be able to learn from each other, but to do so, reliable data must be collected, collated, and disseminated. Surely statistics on public sector employment and pay should be made widely available to the public that finances the employment. It is an area where a natural curiosity should be satisfied and where, by doing so, benefits might accrue to governments in any parts of the world and help crucial areas of macroeconomic planning. **FD**

A. Premchand

## **Government Budgeting and Expenditure Controls: Theory and Practice**

International Monetary Fund, Washington, DC, 1983, approximately 600 pages, \$24 (cloth), \$18 (paper)

Budgetary woes have long bedeviled governments. These days, however, it is often not simple profligacy but the more worrisome complexity and intractability of institutional expenditures that thwart efforts to "manage" the budget. As government operations grow more extensive and as the number, size, and intricacy of its programs increase, demands upon the budget escalate. Public finance is left running an increasingly poor second to public administration.

In this comprehensive survey of fiscal policies and their implications for budgeting and expenditure control, the author draws on the experiences

of both developed and developing countries for a detailed discussion of budgeting techniques, procedures, and processes. Premchand notes the reforms that have been attempted, and in some cases implemented, but he is clear about their effectiveness—few, if any, have been striking successes. The growing complexity of budget management will, indeed, leave more—not fewer—areas vulnerable in the future.

Several weak spots are flagged and greater scrutiny urged for policy control, personnel management, entitlement programs, and public works operations. In bridging the gap between public finance and public administration, the author points to the urgent need for enhanced coordination among the frequently myriad government offices and departments. Coordination is often the missing link between development planning and budgeting, and its absence has frequently hampered the realization of stabilization goals.

James Riedel

## **Trade as the Engine of Growth in Developing Countries: A Reappraisal**

World Bank Staff Working Paper No. 555, US\$3.

Alternative interpretations of the "trade as the engine of growth" theory—some optimistic, some pessimistic—have much influenced economic policymaking over the past three decades. In 1980 Nobel Laureate W. Arthur Lewis added a major statement to the debate, surveying the slowdown in industrial economies and the adverse consequences that this would have for developing countries, and urged developing countries to increase trade among themselves as a substitute "fuel" for the growth engine.

In this theoretical and empirical reassessment

of the engine of growth thesis, Riedel challenges Lewis' basic assumptions. He argues against Lewis' use of primary (noncompeting) goods as a proxy for developing country trade and assesses the determination of developing country trade by industrial country demand. In fact, he finds that the composition of goods exported by developing countries has changed dramatically in recent years, and manufactures now represent a significant component. Their export success in the 1970s had come at a time of stagnation in industrial country markets—it was not prosperity in the developed countries but the price competitiveness of their own goods, Riedel asserts, that underwrote the success of developing country exports.

Riedel's study urges a less mechanical view of the relationship between trade and growth, finding the two complementary and interdependent and noting the importance of export diversification.

Milton J. Esman

## **Paraprofessionals in Rural Development: Issues in Field-Level Staffing for Agricultural Projects**

World Bank Staff Working Paper No. 573, US\$3.

Small-scale agriculture has attracted increased project lending in recent years. Its potential is impressive but the projects are complex and implementation has not been without problems. Breakdowns do occur and they are most likely to arise in the extension of services to farmers at the field level. The civil servants who customarily form the critical link between the government and the small farmer are often too few and too expensive to be cost-effective.

Esman's study, commissioned by the Bank as one of a series of sociological studies of project

experience, suggests another, more promising intermediary: the local paraprofessional. Paraprofessionals have been used in Bank-supported projects in agricultural extension, irrigation, livestock, and social forestry development. The evidence to date suggests that if chosen and paid by (and therefore accountable to) local organizations and farmers' associations, paraprofessionals can improve the relevance and cost effectiveness of projects, while increasing local self-reliance.

In addition to urging greater attention to the complex needs of field-level implementation at the planning stage, Esman suggests that the civil servants now employed at the field level be retrained as supervisors, with paraprofessionals taking their place in the field. This paraprofessional system could be more effective if greater use were made of female paraprofessionals to provide services to women farmers and if training and support services were provided locally.