

Government: Approach and Data Requirements

This chapter provides specific instructions on how to administer the questionnaires on government expenditures that were used in the 2011 round of the International Comparison Program (ICP). The instructions were designed to serve as a practical guideline for economies as they collected government expenditure data in line with the required approach and procedures.

INFORMATION REQUIRED ON GOVERNMENT

In the ICP 2011 round, the participating economies were required to complete questionnaires on both government compensation of employees and government expenditures, and to provide additional data on pay and employment indicators. Detailed information on each of the 37 government occupations appears in annex A of this chapter. An example of a data collection form appears in annex B.

Questionnaire on Compensation of Government Employees

This questionnaire collects information on the compensation of government employees in 37 typical occupations (see annexes A and B).

Government Occupations and Pay Scale

Table 10.1 classifies these government occupations by function (health, education, collective).

The table covers occupations in government hospitals and clinics and in government schools, colleges, and universities—that is, the individual services provided by government. The list also includes occupations in collective services such as ministries of finance, economic planning, statistical offices, and foreign affairs. Some of the occupations are common to both collective and individual services.

Not all occupations are relevant in all economies. For example, today it is quite common for occupations such as driver and cook to be outsourced and these jobs carried out by a private company on contract to the government. In this case, economies would not be able to report the compensation of government employees in these occupations. They would, however, be encouraged to complete the government compensation questionnaire for as many of the 37 occupations as possible.

Economies are asked to provide the details of employee compensation as defined in their national accounts (see the questionnaire in annex B). These definitions should be broadly in line with the definitions given in the 1993 version of the System of National Accounts (Commission of the European Communities et al. 1993).

Compensation of employees includes basic pay, cash allowances, income in kind, and employers' social security contributions on behalf of government employees. When, as is

Table 10.1 Government Occupations by Function, ICP 2011

ICP description	ISCO code and description	Health	Education	Collective
Senior government official	1112: Senior government officials			X
Hospital manager	1120: Managing directors and chief executives	X		
Data processing manager	1330: Information and communications technology service managers			X
Secondary school principal	1345: Education managers		X	
Government statistician	2120: Mathematicians, actuaries, and statisticians			X
Hospital doctor	2211: Generalist medical practitioners	X		
Specialist doctor	2212: Specialist medical practitioners	X		
Hospital nurse	2221: Nursing professionals	X		
University teacher	2310: University and higher education teachers		X	
Vocational education teacher	2320: Vocational education teachers		X	
Primary school teacher	2341: Primary education teachers		X	
Secondary school teacher	2330: Secondary education teachers		X	
Government accountant	2411: Accountants			X
Human resources professional	2423: Personnel and careers professionals			X
Database administrator	2521: Database designers and administrators			X
Judge	2612: Judges			X
Government economist	2631: Economists			X
Laboratory assistant	3212: Medical and pathology laboratory technicians	X		
Auxiliary nurse	3221: Nursing associate professionals	X		
Medical records clerk	3252: Medical records and health information technicians	X		
Office supervisor	3341: Office supervisors			X
Medical secretary (hospital)	3344: Medical secretaries	X		
Customs inspector	3351: Customs and border inspectors			X
Computer operator	3511: Information and communications technology operations technicians			X
Secretary (not medical)	4120: Secretaries		X	X
Accounting and bookkeeping clerks	4311: Accounting and bookkeeping clerks			X
Payroll clerk	4313: Payroll clerks			X
Cook	5120: Cooks			X
Building caretaker	5153: Building caretakers	X	X	X
Teacher's aide	5312: Teacher's aides		X	
Firefighter	5411: Firefighters			X
Policeman/policewoman	5412: Police officers			X
Prison guard	5413: Prison guards			X
Driver (general-duty)	8322: Car, taxi, and van drivers			X
Office cleaner	9112: Cleaners and helpers in offices, hotels, and other establishments	X	X	X
Kitchen helper	9412: Kitchen helpers			X
Messenger	9621: Messengers			X
Total		10	9	23

Source: ICP, <http://icp.worldbank.org/>.

Note: ISCO = International Standard Classification of Occupations.

often the case, the government does not place social security payments in a separate fund for its employees, economies are asked to report the imputed contribution calculated in the same way as in their regular national accounts.

For the 2005 round of the ICP, economies were asked to provide compensation data for employees with five years of experience in each occupation. However, often the outcome was not satisfactory, and so for ICP 2011 economies were asked to supply compensation data for employees at four stages of their careers: starting level, after 5 years, after 10 years, and after 20 years. Thus if economies were able to complete questionnaires for all 37 occupations, they returned 148 (37 × 4) separate questionnaires.

So that government compensation in different economies can be compared properly, economies are also expected to provide information on the number of hours worked by government employees. Questions 22–26 of the questionnaire in annex B ask for information about the number of hours worked. Question 26 asks about the number of hours *actually* worked. It is a common practice in economies in which government salaries are very low to allow employees to take time off for a second job. This might include anything from operating a kiosk or taxi service to giving tutorials or teaching in a

university. It is important that economies make their best estimate of the hours actually worked by deducting from the official hours time that is regularly taken off by government employees.

The information on government compensation should be taken from national official government pay scales (see table 10.2).

Employees in public administration are usually paid on the basis of a salary scale such as the government pay scale shown in table 10.2. The scale is divided into grades—P, T, and W. Grades generally correspond to levels of education or skills.¹

Within grades there are *categories* (four in this example), and each category is itself divided into *steps* (1–7 in this example). Each step is usually 12 months, although steps of 18 or 24 months are not uncommon.

The personnel recruitment office will know the usual entry level for each occupation. Suppose, for example, that the entry level for ICP occupation 33, prison guard, is step 1 of category T2. The base pay of an entry-level prison guard would thus be 35,500, and the base pay for a prison guard with five years of seniority would be 40,300 (equivalent to five steps). But if each step is 18 or 24 months, five years of seniority would be equivalent to four steps and a salary of 39,100 for 18-month steps

Table 10.2 Government Pay Scales, ICP 2011

local currency units

Grade and category	Step						
	1	2	3	4	5	6	7
P4	88,900	91,400	93,900	96,400	98,900	101,400	103,900
P3	76,800	78,800	80,800	82,800	84,800	86,800	89,000
P2	66,100	67,900	69,700	71,500	73,300	75,100	76,900
P1	53,600	55,000	56,400	57,800	59,200	60,600	62,000
T4	47,900	49,500	51,100	52,700	54,300	55,900	57,500
T3	41,200	42,600	44,000	45,400	46,800	48,200	49,600
T2	35,500	36,700	37,900	39,100	40,300	41,500	42,700
T1	31,100	32,100	33,100	34,100	35,100	36,100	37,100
W4	34,700	35,700	36,700	36,800	36,900	37,000	37,100
W3	31,300	32,300	33,300	34,300	35,300	36,300	37,300
W2	28,400	29,200	30,000	30,800	31,600	32,400	33,200
W1	25,700	26,500	27,300	28,100	28,900	29,700	30,050

Source: ICP, <http://ICP.worldbank.org/>.

and to three steps and a salary of 37,900 for 24-month steps. The base pay obtained from the salary scales would be converted to compensation of employees by adding in any cash allowances, income in kind, and employers' actual or imputed contributions relevant for a prison guard at this level of the pay scale.

National Annual Average

The governments of most economies have official unified national pay scales for the general government, which consists of central, regional, state, and local government units. In this case, the number of observations for each occupation is one because the government sector bases its compensation on the unified pay scale. In those economies that do not have a unified national pay scale, there are different pay scales for different levels of government. In this case, multiple observations would be needed to obtain the national average remuneration.

When calculating the average of different pay scales, it is recommended that the number of employees under each pay scale be used as weights to calculate the weighted average. Three ways (cases) of obtaining the weighted average—all of which depend on the availability of information on the number of employees—are presented in tables 10.3, 10.4, and 10.5.

Table 10.3 shows the case in which the number of employees under each occupation for each pay scale is available. In this case, observations for an occupation are weight-averaged, using the number of employees *for each occupation* to obtain its average remuneration. For example, in table 10.3 the average remuneration of occupation 1 is obtained using 1,000 and

500 as weights; 1,200 and 450 are the weights for occupation 2. Thus,

$$\begin{aligned} \text{average} \\ \text{remuneration for} \\ \text{occupation 1} &= (65,000 \times 1,000 \\ &\quad + 72,000 \times 500)/(1,000 \\ &\quad + 500) = 67,333 \end{aligned}$$

$$\begin{aligned} \text{and} \\ \text{average} \\ \text{remuneration for} \\ \text{occupation 2} &= (48,000 \times 1,200 \\ &\quad + 54,000 \times 450)/(1,200 \\ &\quad + 450) = 49,636. \end{aligned}$$

When the number of employees for each occupation under each pay scale is not available, the number of employees under each basic heading (education, health, and collective services) can be used as an approximate weight. In table 10.4, no information is available on the number of employees for each occupation. Thus the total number of employees under the basic heading education is applied to all occupations under the basic heading. For example, the remunerations of occupations 1, 2, and 3 are averaged, respectively, using 5,200 and 2,800 as the approximate weights for each occupation. Therefore,

$$\begin{aligned} \text{average} \\ \text{remuneration} \\ \text{for occupation 1} &= (65,000 \times 5,200 \\ &\quad + 72,000 \times 2,800)/(\\ &\quad (5,200 + 2,800)) = 67,450 \end{aligned}$$

$$\begin{aligned} \text{and} \\ \text{average} \\ \text{remuneration} \\ \text{for occupation 2} &= (48,000 \times 5,200 \\ &\quad + 54,000 \times 2,800)/(5,200 \\ &\quad + 2,800) = 50,100. \end{aligned}$$

Table 10.3 Case 1 (Number of Employees for Each Occupation Is Available), ICP 2011

	Weight = number of employees		Remuneration (local currency units)		National average
	Pay scale A	Pay scale B	Pay scale A	Pay scale B	
Total employees	34,000	12,000			
Education	5,200	2,800			
Occupation 1	1,000	500	65,000	72,000	67,333
Occupation 2	1,200	450	48,000	54,000	49,636
Occupation 3	1,500	380	58,000	56,000	57,596
...

Source: ICP, <http://ICP.worldbank.org/>.

Table 10.4 Case 2 (Number of Employees under Each Basic Heading Is Available), ICP 2011

	Weight = number of employees		Remuneration (local currency units)		National average
	Pay scale A	Pay scale B	Pay scale A	Pay scale B	
Total employees	34,000	12,000			
Education	5,200	2,800			
Occupation 1	—	—	65,000	72,000	67,450
Occupation 2	—	—	48,000	54,000	50,100
Occupation 3	—	—	58,000	56,000	57,300
...

Source: ICP, <http://icp.worldbank.org/>.

Note: — = not available.

Table 10.5 Case 3 (Only the Total Number of Employees under the Pay Scale Is Available), ICP 2011

	Weight = number of employees		Remuneration (local currency units)		National average
	Pay scale A	Pay scale B	Pay scale A	Pay scale B	
Total employees	34,000	12,000			
Education	—	—			
Occupation 1	—	—	65,000	72,000	66,826
Occupation 2	—	—	48,000	54,000	49,565
Occupation 3	—	—	58,000	56,000	57,478
...

Source: ICP, <http://ICP.worldbank.org/>.

Note: — = not available.

If no breakdown of number of employees is available—that is, if only the total number of employees under each pay scale is available, as shown in the example in table 10.5—then the total number of employees under the pay scale can be used as a rough estimation of the weights for each occupation. Although this method is not recommended, it would still yield a better estimation than the unweighted average. In table 10.5, the total number of employees under each pay scale is 34,000 and 12,000, respectively. Thus

average

remuneration

$$\text{for occupation 1} = (65,000 \times 34,000 + 72,000 \times 12,000) / (34,000 + 12,000) = 66,826$$

and

average

remuneration

$$\text{for occupation 2} = (48,000 \times 34,000 + 54,000 \times 12,000) / (34,000 + 12,000) = 49,565.$$

Some economies have different pay scales for nationals and residents (or foreigners living in the economy). In this case, pay scales for both nationals and residents need to be taken into consideration—that is, they need to be weight-averaged using the number of employees under each pay scale as their weights. If information is available only for nationals, it can be used as a national pay scale for approximation purposes.

Questionnaires on Government Expenditures

These questionnaires ask for information on current and capital government expenditures. General government includes all levels of government such as federal, central, provincial, state, municipal, and local government agencies. Economies are asked to report expenditures separately for the central or federal government and for all other levels of government combined. All government functions are addressed by the three questionnaires on government

expenditures, which cover health, education, and collective services (see annex C).

The information that economies provide in these questionnaires should be based on a set of final government accounts.

Pay and Employment Data Structure Indicators

For data checking and validation, additional data are collected for a tier of aggregate indicators, including: (1) gross domestic product (GDP), (2) total population, (3) school-age population, and (4) total labor force. In addition to providing these indicators, economies are asked to submit government recurrent expenditure indicators and wage bill and employment indicators. A detailed summary with a description of each indicator appears in annex D.

Additional ratios are automatically computed based on the aggregate indicators such as general government wage bill per GDP and subnational government wage bill per total recurrent expenditure. Computed indicators include compression ratios and public sector remuneration per GDP per capita and employment ratios. More information on computed indicators is provided in annex E.

Productivity Adjustments

Measuring the compensation of government employees is a difficult area for the ICP because labor productivity in government varies markedly among economies. For ICP 2011, detailed specifications were provided for each occupation, including required level of education and experience. Factors such as the difference in the quality of education and the availability of equipment such as computers between countries are key elements of such differences in productivity. It was essential to adjust for productivity differences between economies because not adjusting for them in some regions would have significantly distorted the estimates of real expenditures for government. In some cases, the distortions would have been so large that they would have affected comparisons of real expenditures on GDP. If no productivity adjustments were made, economies in which government salaries were very low would have had very high real consumption of

government services compared with the high-income economies in the region in which government salaries were relatively much higher. The global-level application is explained in chapter 26 in relation to global linking.

Productivity Adjustment Factors

Productivity adjustments were calculated using capital-labor estimates for each economy.² It was not possible to estimate productivity adjustments directly for the government sector, and so they were based on comparisons of economy-wide capital-labor estimates. Productivity estimates were imputed for economies that had insufficient data to calculate such estimates. The estimates were based on those for similar types of economies in their region.

The capital/worker adjustment is straightforward conceptually because it answers the question of how much higher labor productivity would be if workers in the country of concern had the same level of capital as the base country. The production function framework that was used in ICP 2005 was applied, assuming that output is produced by means of two inputs: labor and capital (World Bank 2008; Heston 2013). It is assumed that output of government services Y is produced using capital K and labor L with efficiency level A :

$$Y = f(K, L, A). \quad (10.1)$$

Assuming the production function has constant returns to scale and exhibits Hicks-neutral efficiency, (10.1) can be rewritten as

$$\frac{Y}{L} = A \left(\frac{K}{L} \right)^\alpha \Leftrightarrow y = AK^\alpha, \quad (10.2)$$

where α is the output elasticity of capital.

The aim is to compare labor productivity y between any given pair of countries i and j (multilateral comparisons). Each country could be at a different point on the production function and thus could have a different output elasticity of capital. The standard approach to this problem is to define a hypothetical "average" country, with variables denoted by an upper bar, and compare each country to this average. This procedure is akin to the Gini-Éltető-Köves-Szulc (GEKS) index number approach, but is based on the Törnqvist index instead of the Fisher index. Relative labor

productivity between country i and the average country is then equal to

$$\ln\left(\frac{Y_i}{\bar{Y}}\right) = \left(\frac{A_i}{\bar{A}}\right) + \frac{1}{2}(\alpha_i + \bar{\alpha})\ln\left(\frac{K_i}{\bar{K}}\right). \quad (10.3)$$

Following the earlier work on this approach, it is assumed that efficiency in the use of inputs is the same across countries. Once the necessary data are available, adjustment factors for the relative wages (F) can be computed. These are based on capital input (relative to the average country) for country i compared with capital input for base country b in each region:

$$F_{i,b} = 1/e^{(p_i - p_b)}, \quad (10.4)$$

where $p_i = (\alpha_i + \bar{\alpha})\ln\left(\frac{K_i}{\bar{K}}\right)$ and similarly for base country b .

The adjustment factors, as defined in equation (10.4), are used to adjust the PPP for wages in country i relative to base country b for productivity differences:

$$\widehat{PPP}_{i,b}^w = PPP_{i,b}^w * F_{i,b}. \quad (10.5)$$

Because this model implies that a government worker is less productive in a country with less capital per worker, that worker's productivity-adjusted wage should be higher, which leads to higher input purchasing power parities (PPPs) and thus lower relative output volumes. Another element that would normally lead to cross-country differences in labor productivity, and thus wages, is differences in levels of schooling. Because the ICP wages are collected for precisely specified categories of workers, also distinguished by their educational qualifications, it is assumed that no further adjustments are required. The productivity adjustment would be applied across all categories of workers.

The key input in implementing a capital-based productivity adjustment is an estimate of capital stocks at current national prices. Capital stocks are estimated using the perpetual inventory method (PIM) and data on investment by asset. In contrast to the approach followed in the ICP 2005 round, in the 2011 round capital-labor ratios were calculated based on country-specific data on capital stocks and capital elasticities. For some countries, time series of investment by assets were readily available from national accounts sources. For countries

in which this was not the case, the starting point was the ICP investment by asset data. For countries that participated in an ICP comparison before 2011, the benchmark investment shares were used in combination with the commodity flow method (CFM) to estimate the share of each asset in total investment over time. The CFM uses changes in the total supply (imports + production – exports) of a commodity to approximate the change in investment. For countries that were newcomers in ICP 2011, it was assumed that their 2011 asset investment pattern was constant over time.

The investment PPPs from ICP 2011 were available at a more detailed level than was required for the productivity adjustment. As a first step, they were aggregated to six assets using a within-region GEKS procedure and investment shares as weights. As long as the depreciation rates within each of the six assets are approximately the same, this simplification does not lead to a bias in the final PPP. In the second step, the six asset PPPs were combined into an overall capital stock PPP using a within-region GEKS procedure and the capital stocks at current national prices as weights.

The second type of national data needed for a capital-based productivity adjustment is the marginal productivity of capital as reflected in the output elasticity of capital. This is not directly observable, but a common approach is to assume perfect competition in the labor and product markets so that the revenue share of capital can be used instead. In ICP 2011, no information about the revenue share of capital for government services was available, and so the capital share in overall GDP was used instead. It also allowed consistency with the capital stock measures.

Implementing equation (10.4) also requires data on employment. Employment data were taken from the Conference Board's Total Economy Database, supplemented by data from the International Labour Organization (ILO) and the World Bank's World Development Indicators. For countries for which these sources did not provide enough information—in particular in the Caribbean region—the average employment to population ratio of the region was used. Adjustments for productivity differences were made to the real expenditure

estimates for government in the Africa, Asia and the Pacific, Latin America, and Caribbean regions. No productivity adjustments were applied within the Eurostat-OECD, Commonwealth of Independent States, and Western Asia regions because differences in labor productivity within each of those regions were considered to be relatively small. However, productivity adjustments were made to all regions when the interregional linking factors were estimated to maintain consistency in the global comparison.

Productivity adjustments were calculated using capital-labor estimates for each economy. It was not possible to estimate productivity adjustments directly for the government sector, and so they were based on comparisons of economy-wide capital-labor estimates. Productivity estimates were imputed for economies that had insufficient data to calculate such estimates. They were based on the productivity

estimates for similar types of economies in their region.

Application of Productivity Adjustment Factors at the Regional Level

After the basic heading PPPs were calculated, the productivity adjustment factors obtained through the above process were applied when necessary to the final regional basic heading PPPs for all the participating countries in the regions for the three government compensation basic headings: 130221.1, compensation of employees (health services); 130421.1, compensation of employees (education services); 140111.1, compensation of employees (collective services).

When the adjustment factors are applied, the base country for the adjustment factors should be the same country as the base country of the regional PPPs (see box 10.1). If not, the adjustment factors need to be rebased so that the adjustment factor of the base country is 1. After

BOX 10.1

Example of the Application of Productivity Adjustment (PA) Factors

What follows is an example of the application of productivity adjustment factors in which the base country for the adjustment factors is different from the base country for the PPPs. In this case, the adjustment factors need to be rebased before application so that they and the PPPs have the same base country.

PPPs and PA factors with different countries as base

	Country				
	A	B	C	D	E
PPPs	12.8	1.7	47.0 (base)	1.0	0.6
PA factors	1.0 (base)	0.2	1.1	0.4	0.7

If country C is the base country for the calculation of PPPs and country A is the base for PA factors, the PA factors cannot be applied as they are. They need to be rebased to make country C the base.

PPPs and PA factors with the same country as base

	Country				
	A	B	C	D	E
PPPs	12.8	1.7	47.0 (base)	1.0	0.6
Rebased PA factors	0.9	0.2	1.0 (base)	0.4	0.6

Now the base is country C for both PPPs and PA factors. It can be applied to obtain productivity-adjusted PPPs:

productivity-adjusted PPPs = regional PPP × PA factor.

Productivity-adjusted PPPs

	Country				
	A	B	C	D	E
Productivity-adjusted PPPs	11.52	0.34	47.00	0.40	0.36

having the same base country for both PPPs and productivity adjustment factors, the PPPs were multiplied by the adjustment factors to make the PPPs comparable.

The productivity adjustment factors are expressed in relation to the productivity of a regional base country, and the adjustment factor for the base country is expressed as 1. If the adjustment factor is smaller than 1 for

a country, it means the productivity of the country is estimated to be higher than that of the base country. If it is larger than 1, the productivity of the country is estimated to be lower than that of the base country.

After the productivity adjustment factors are applied to the regional PPPs, the adjusted PPPs should be validated as described in chapter 22 on PPP validation.

Annex A

Government Occupations, ICP 2011

#	ICP occupation	Description	Tasks	Additional information	ISCO code and job title
1	Senior government official	The senior government official referred to here is a permanent civil servant who is one level below a minister and who may be described as a permanent secretary, deputy minister, director general, and so forth. This senior government official reports directly to the minister.	Advising ministers on policy matters and exercising overall management of a ministry or department of state	These senior government officials may be working in any central or federal government ministry or department such as finance, agriculture, trade, industry, commerce, foreign affairs, transport, tourism, health, education, and foreign affairs.	1112: Senior government officials
2	Hospital manager	Hospital managers formulate and review policies and plan, direct, coordinate, and evaluate the overall activities of government-funded hospitals, clinics, and similar establishments.	Planning, directing, and coordinating the general functioning of a hospital, clinic, or similar establishment Reviewing the operations and results of the facility and reporting to boards of directors and governing bodies		1120: Managing directors and chief executives
3	Data processing manager	Data processing managers plan, direct, and coordinate the acquisition, development, maintenance, and use of computer and telecommunications systems.	Consulting with users, management, vendors, and technicians to assess computing needs and system requirements and specifying technology to meet those needs Formulating and directing information and communications technology (ICT) policy within a government ministry or department		1330: Information and communications technology service managers
4	Secondary school principal	Secondary school principals plan, direct, coordinate, and evaluate the educational and administrative aspects of secondary schools.	Determining educational programs based on frameworks established by educational authorities and governing bodies Implementing systems and procedures to monitor school performance and student enrollments Directing the administrative aspects of secondary schools, including teachers' assignments, and setting school rules for conduct and discipline and management of auxiliary staff	Principals are also referred to as head masters, head mistresses, and head teachers.	1345: Education managers

Annex A (Continued)

#	ICP occupation	Description	Tasks	Additional information	ISCO code and job title
5	Government statistician	Government statisticians collect, edit, tabulate, and publish economic, demographic, and social statistics. Government statisticians will have a professional, tertiary-level qualification in statistics or a related field such as mathematics or demography.	Designing statistical samples, questionnaires, and survey procedures Editing, checking, processing, and tabulating statistics so that they can be released to the general public in printed or electronic publications Secondary processing of statistics to generate statistical indicators such as GDP, price indexes, and leading economic indicators	In many statistical offices, there is a hierarchy of professional statistician grades such as assistant statistician, statistician, principal statistician, and senior statistician. Details on compensation should be provided for the grade that includes the largest number of statisticians.	2120: Mathematicians, actuaries, and statisticians
6	Hospital doctor	Medical doctors study, diagnose, treat, and prevent illness, disease, injury, and other physical and mental impairments in humans through the application of the principles and procedures of modern medicine.	Conducting physical examinations of patients and interviewing them and their families to determine their health status Ordering diagnostic tests and analyzing findings Prescribing and administering curative treatments		2211: Generalist medical practitioners
7	Specialist doctor	Specialist doctors study, diagnose, treat, and prevent illness, disease, injury, and other physical and mental impairments in humans. They specialize in certain disease categories, types of patient, or methods of treatment, and may conduct medical education and research in their chosen areas of specialization.	Conducting physical examinations of patients and interviewing them and their families to determine their health status Ordering diagnostic tests, analyzing findings, as well as prescribing and administering curative treatments	Examples of a specialist doctor are pediatrician; dermatologist; gynecologist; orthopedic specialist; rheumatologist; cancer specialist; ear, nose, and throat specialist; cardiologist; gerontologist; ophthalmologist; and urologist.	2212: Specialist medical practitioners
8	Hospital nurse	Hospital nurses provide treatment, support, and care services for people who are in need of nursing care because of the effects of aging, injury, and illness or other physical or mental impairments, or potential risks to health. They carry out their tasks under the supervision of doctors or senior nurses.	Providing nursing care for patients according to the practice and standards of modern nursing Coordinating the care of patients in consultation with other health professionals and members of health teams	Hospital nurses will have had formal training for at least one year and will have a nationally recognized nursing qualification. Level and length of training depend on the standards applied in each economy.	2221: Nursing professionals

table continues next page

Annex A (Continued)

#	ICP occupation	Description	Tasks	Additional information	ISCO code and job title
9	University teacher	University and higher education teachers prepare and deliver lectures and conduct tutorials in one or more subjects within a prescribed course of study at a university or other higher educational institution. They conduct research and prepare scholarly papers for publication in peer-reviewed journals.	<p>Designing and modifying curricula and preparing courses of study in accordance with requirements</p> <p>Preparing and delivering lectures and conducting tutorials, seminars, and laboratory experiments</p> <p>Stimulating discussion and setting and marking papers for students</p>		2310: University and higher education teachers
10	Vocational education teacher	Vocational education teachers teach vocational or occupational subjects to adults in continuing education institutions and to senior students in secondary schools and colleges. They prepare students for employment in specific occupations.	<p>Designing and modifying curricula and preparing educational courses of study in accordance with curriculum guidelines</p> <p>Establishing and enforcing rules for behavior and procedures for maintaining order among students</p>		2320: Vocational education teachers
11	Primary school teacher	Primary school teachers teach a range of subjects at the primary education level.	<p>Preparing daily and longer-term lesson plans in accordance with curriculum guidelines</p> <p>Instructing children individually and in groups, using various teaching methods and materials (e.g., computers, books, games)</p>		2341: Primary education teachers
12	Secondary school teacher	Secondary school teachers teach one or more subjects at the secondary education level, excluding subjects intended to prepare students for employment in specific occupational areas.	<p>Preparing daily and longer-term lesson plans in accordance with curriculum guidelines</p> <p>Instructing pupils individually and in groups, using various teaching methods and materials</p> <p>Setting and marking coursework and homework and assessing student performance</p>		2330: Secondary education teachers
13	Government accountant	Government accountants plan, organize, and administer accounting systems for government ministries, departments, and other agencies. They verify that the revenue and expenditure records maintained by government agencies are accurate and in compliance with current legislation.	<p>Developing financial plans and investment strategies for government agencies</p> <p>Advising government officials on financial legislation</p> <p>Preparing or supervising the preparation of quarterly or annual income and expenditure statements for government departments and ministries</p>	Government accountants will have a recognized qualification in accounting, which is usually acquired at the tertiary or post-tertiary education level.	2411: Accountants

Annex A (Continued)

#	ICP occupation	Description	Tasks	Additional information	ISCO code and job title
14	Human resources professional	Human resources professionals work in personnel or human resources departments either in government ministries or in a department/ministry dedicated to recruitment and personnel management.	<p>Developing standards for recruitment to various "job families" such as secretarial, technical, and professional occupations</p> <p>Advising on pay scales and terms of employment for different occupations</p> <p>Ensuring that recruitment practices are in line with government regulations regarding gender, ethnicity, physical disabilities, and so forth</p>		2423: Personnel and careers professionals
15	Database administrator	Database administrators develop, control, and maintain one or more databases in a government ministry or department.	<p>Selecting the variables to be included in the database in consultation with users</p> <p>Drawing up rules for updating, editing, and quality control of the database</p> <p>Preparing analytical reports on recent trends, correlations, and forecasts from the database</p>		2521: Database designers and administrators
16	Judge	Judges preside over civil and criminal proceedings in courts of law.	<p>Judges preside over civil and criminal proceedings in courts of law, determining the guilt or innocence of defendants either alone or in consultation with other judges.</p> <p>Deciding on the appropriate penalty in the event of a guilty verdict</p> <p>Hearing appeals against verdicts passed by other judges</p>	Judges will have qualifications in the practice of law at the tertiary level or higher and will be entitled to try both civil and criminal cases.	2612: Judges
17	Government economist	Government economists conduct research, monitor data, analyze information, and prepare reports and plans to resolve the economic and financial problems of government.	<p>Monitoring and reporting on recent economic trends</p> <p>Analyzing the economic impact of government legislation</p> <p>Forecasting government revenues and expenditures</p> <p>Preparing development plans for particular industries or the nation as a whole</p>	The government economist for whom compensation details are required should be working in a ministry of finance/economy.	2631: Economists
18	Laboratory assistant	Laboratory assistants perform technical tasks in hospital laboratories to help medical staff determine the causes of diseases and monitor the effectiveness of treatments.	<p>Preparing materials and equipment for experiments, tests, and analyses</p> <p>Collecting and preparing specimens such as plant, animal, or human cells, and tissues or parts or organs for experiments and analyses</p> <p>Assisting with and performing experiments and analyses</p>		3212: Medical and pathology laboratory technicians

table continues next page

Annex A (Continued)

#	ICP occupation	Description	Tasks	Additional information	ISCO code and job title
19	Auxiliary nurse	Auxiliary nurses assist medical, nursing, and midwifery professionals in their duties.	<p>Preparing patients for examination or treatment</p> <p>Changing bed linen and helping patients with their toilet</p> <p>Providing hot-water bottles and other comforts for patients</p> <p>Serving and collecting food trays and feeding patients needing help</p> <p>Sterilizing surgical and other instruments and equipment</p>	Nursing auxiliaries may or may not have a recognized medical qualification.	3221: Nursing associate professionals
20	Medical records clerk	Medical records clerks maintain the health records of patients. They are responsible for the storage and retrieval of these records in government medical facilities and other health care facilities.	<p>Entering relevant information on new patients</p> <p>Maintaining records of the treatment received and of the outcomes of such treatments</p>		3252: Medical records and health information technicians
21	Office supervisor	Office supervisors supervise and coordinate the activities of clerical support workers.	Among other things, coordinating, assigning, and reviewing the work of clerks engaged in duties such as word processing, record keeping and filing, operating telephones and switchboards, data entry, desktop publishing, and similar activities		3341: Office supervisors
22	Medical secretary (hospital)	Medical secretaries (hospital), using specialized knowledge of medical terminology and health care delivery procedures, assist health professionals and other workers by performing a variety of communication, documentation, administrative, and internal coordination functions.	<p>Scheduling and confirming medical appointments and communicating messages for medical staff and patients</p> <p>Compiling, recording, and reviewing medical charts, reports, documents, and correspondence</p> <p>Interviewing patients to confirm their medical history, personal identification, civil status, and next of kin</p>		3344: Medical secretaries
23	Customs inspector	Customs inspectors examine goods crossing international land, sea, or air borders to determine whether import or export is allowed and to assess the customs duties payable.	<p>Examining goods entering or leaving the economy by land, sea, or air to determine whether they are being legitimately imported or exported</p> <p>Assessing the customs duties that should be paid on imported or exported goods</p>		3351: Customs and border inspectors

Annex A (Continued)

#	ICP occupation	Description	Tasks	Additional information	ISCO code and job title
24	Computer operator	Computer operators maintain networks and other data communications systems.	<p>Operating, maintaining, and troubleshooting network systems</p> <p>Operating and maintaining data communications systems other than networks</p> <p>Assisting users with network and data communications problems</p> <p>Providing "help desk" services</p>		3511: Information and communications technology operations technicians
25	Secretary (not medical)	Secretaries (not medical) use word-processing equipment to transcribe correspondence and other documents, check and format documents prepared by other staff, deal with incoming and outgoing mail, and screen requests for meetings with senior staff.	<p>Checking, formatting, and transcribing correspondence, minutes, and reports from dictation, electronic documents, or written documents using word-processing equipment</p> <p>Establishing and maintaining filing systems to classify documents by subject or chronological order</p> <p>Distributing incoming mail to intended recipients and screening requests for meetings with senior staff</p>		4120: Secretaries
26	Accounting and bookkeeping clerks	Accounting and bookkeeping clerks compute, classify, and record numerical data to keep financial records complete. They perform any combination of routine calculating, posting, and verifying duties to obtain primary financial data for use in maintaining records on receipts and expenditures.	<p>Checking figures, postings, and documents for correct entry, mathematical accuracy, and proper codes</p> <p>Operating computers programmed with accounting software to record, store, and analyze information</p> <p>Classifying and recording receipts and expenditures and other relevant financial transactions</p>		4311: Accounting and bookkeeping clerks
27	Payroll clerk	Payroll clerks collect, verify, and process payroll information and compute pay and benefit entitlements for government employees working in one or more government ministries.	<p>Maintaining records of employee attendance, leave, and overtime to calculate pay and benefit entitlements, using manual or computerized systems</p> <p>Preparing and verifying statements of earnings for employees, indicating gross and net income</p>		4313: Payroll clerks
28	Cook	Cooks plan, organize, prepare, and cook meals in canteens and other eating places in schools, universities, hospitals, and government offices.	<p>Planning meals and preparing and cooking foodstuffs</p> <p>Planning, supervising, and coordinating the work of kitchen helpers</p> <p>Checking the quality of food</p> <p>Weighing, measuring, and mixing ingredients according to recipes</p>		5120: Cooks

table continues next page

Annex A (Continued)

#	ICP occupation	Description	Tasks	Additional information	ISCO code and job title
29	Building caretaker	Building caretakers maintain schools, hospitals, university buildings, and government offices and their associated grounds in a clean and orderly condition.	Supervising the work of cleaning, housekeeping, and building maintenance staff and contractors Participating in the cleaning, simple repairs, and maintenance of building interiors Tending furnaces and boilers Providing services such as accepting deliveries or providing requested information to callers	Other terms used for building caretaker are concierge and janitor.	5153: Building caretakers
30	Teacher's aide	Teacher's aides perform nonteaching duties to assist teaching staff and provide care and supervision for children in schools and preschools	Demonstrating, supervising, and participating in activities that enhance the physical, social, emotional, and intellectual development of children in schools and preschools Preparing indoor and outdoor areas for learning and recreational activities		5312: Teacher's aides
31	Firefighter	Firefighters respond to calls to extinguish fires and to deal with other civil emergencies.	Responding to fire alarms and other calls for assistance such as automobile and industrial accidents, bomb threats, and other emergencies Controlling and extinguishing fires using manual and power equipment and firefighting chemicals Preventing or limiting the spread of dangerous substances in case of fires or accidents Informing the public about fire prevention		5411: Firefighters
32	Policeman or policewoman	Policemen/policewomen maintain law and order and enforce laws and regulations. Work typically involves gaining familiarity with an area and the persons living in it, noting suspicious activities, patrolling the assigned area, rendering first aid, making investigations, maintaining logs of their activities, and giving evidence in legal proceedings. They generally work under the supervision of police inspectors or detectives.	Maintaining law and order Protecting persons and property from hazards and unlawful acts Arresting persons for contraventions of the law Directing traffic and assuming authority in the case of accidents Giving evidence in court	Examples of the occupations classified here include constable, patrolman/patrolwoman, police officer, river or harbor policeman/policewoman	5412: Police officers

Annex A (Continued)

#	ICP occupation	Description	Tasks	Additional information	ISCO code and job title
33	Prison guard	Prison guards watch over and maintain discipline among inmates of prisons, reformatories, and penitentiaries.	Searching arriving prisoners, putting their valuables in safekeeping, escorting prisoners to cells, and locking them in Making periodic inspection tours of cells Supervising prisoners at work, meals, or during walks and patrolling prison areas to prevent escape		5413: Prison guards
34	Driver (general-duty)	Drivers drive motorcars and vans to transport passengers, mail, or goods. They maintain their vehicles in a clean, roadworthy condition.	Driving delivery vans or passenger cars Maintaining their vehicles in a clean, roadworthy condition Assisting passengers with handling of luggage		8322: Car, taxi, and van drivers
35	Office cleaner	Office cleaners perform the various tasks needed to keep the interiors and fixtures of government offices clean and tidy.	Among other things, sweeping or vacuum cleaning and washing and polishing floors, windows, furniture, and other fixtures in government offices		9112: Cleaners and helpers in offices, hotels, and other establishments
36	Kitchen helper	Kitchen helpers clear tables, clean kitchen areas, wash dishes, prepare ingredients, and perform other duties to assist workers who prepare or serve food and beverages.	Cleaning kitchens, food preparation areas, and service areas Assisting cooks and chefs in the preparation of food by washing, peeling, chopping, cutting up, measuring, and mixing ingredients	Kitchen helpers work in canteens and restaurants in schools, universities, hospitals, and government ministries and departments.	9412: Kitchen helpers
37	Messenger	Messengers carry and deliver messages, packages, and other items within an establishment or between establishments. They deliver messages either on foot or using vehicles such as bicycles and motor scooters.	Mainly delivering items as requested by employer, but they may carry out other errands. They may keep records and obtain receipts for articles delivered.		9621: Messengers

Source: ICP, <http://icp.worldbank.org/>.

Note: ISCO = International Standard Classification of Occupations.

Annex B

Questionnaire on Compensation of Government Employees, ICP 2011

Item no.	Information to be supplied on compensation of employees in selected occupations	Example
1	Date of collection	03/24/2011 (mm/dd/yyyy)
2	Year for which data are reported	2011 (yyyy)
3	ICP occupation code	
4	ICP occupation name	Hospital nurse
5	ISCO code and job title	2221: Nursing professionals
6	Reported currency	Dollar
7	Level	Entry level
8	Cash remuneration:	
9	Base pay	40,000
10	Allowances and other additions to base pay:	
11	Housing	6,000
12	Transportation	3,000
13	Food and meals	1,000
14	Other allowances	2,000
15	Employer's social security contributions:	
16	Actual contributions	Not applicable
17	Imputed contributions	3,000
18	In-kind remuneration:	
19	Housing	3,000
20	Transportation	1,000
21	Food and meals	1,400
22	Other in-kind remuneration	1,000
23	Total remuneration	61,400
24	Number of <i>regular (official)</i> work hours per week	36
25	Number of <i>actual</i> hours worked per week	40
26	Number of days of annual leave per year	20
27	Number of work-days per week	5
28	Number of public holidays per year	15
Explanatory notes		
9	Base pay is the annual salary according to the government pay scale.	
11–14	These are cash payments received by employees in addition to their base pay. "Other allowances" include housing allowances, electricity and water allowances, expatriation allowances, home leave allowances, bonus payments if these are made to all employees regardless of their performance, payments for travel to their home town for annual leave, "hard living" allowances for staff posted to distant or dangerous areas, and any other similar type of payment in cash.	
16 and 17	In most economies, government employees are affiliated with some kind of social security scheme that provides retirement pensions, health insurance, and so forth. The government may make regular payments into a social security fund for its employees, and in this case enter the amount paid each year in line 16. In many economies, governments provide social security benefits to their employees but do not make payments into a social security fund. In this case, enter an "imputed" contribution in line 17. This should be calculated in the same way that imputed social security contributions are calculated for the national accounts.	

Annex B (Continued)

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|-------|---|
| 19–22 | In-kind remuneration is the value of goods and services provided to government employees free of charge. In some economies, school teachers and hospital staff are provided with free or subsidized accommodation. Raw food and cooked meals may also be provided, as well as free or subsidized transport by bus or train. In-kind remuneration should be valued at the cost to the government of supplying these goods or services. |
| 25 | Report here the number of hours per week that the employee is expected to work according to government regulations. |
| 26 | In many economies, it is accepted practice that government employees work less than the regular (official) hours per week. They may have a second job as teachers, accountants, and the like. Report here a best estimate of the hours per week actually worked by employees in this occupation. |
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Source: ICP, <http://icp.worldbank.org/>.

Note: ISCO = International Standard Classification of Occupations.

Annex C

Questionnaires on Government Expenditures, ICP 2011

Questionnaire on government expenditures: health				
Enter amounts in national currency. Specify units.		Reference year		
Item no.	Description of item	Level of government		
		Central or federal (1)	Other levels (2) ^a	General (1) + (2)
1	Wages and salaries in cash			
2	Employer's contribution to social security funds			
3	Actual			
4	Imputed			
5	Benefits in kind			
6	Housing			
7	Transportation			
8	Food and meals			
9	Other in-kind benefits			
10	Intermediate consumption expenditure			
11	Other taxes (less subsidies) on production			
12	Consumption of fixed capital			
13	Net operating surplus			
14	Sales and fees (minus)			
15	Gross fixed capital formation			

Questionnaire on government expenditures: education				
Enter amounts in national currency. Specify units.		Reference year		
Item no.	Description of item	Level of government		
		Central or federal (1)	Other levels (2) ^a	General (1) + (2)
1	Wages and salaries in cash			
2	Employer's contribution to social security funds			
3	Actual			
4	Imputed			
5	Benefits in kind			
6	Housing			
7	Transportation			
8	Food and meals			
9	Other in-kind benefits			
10	Intermediate consumption expenditure			
11	Other taxes (less subsidies) on production			
12	Consumption of fixed capital			
13	Net operating surplus			
14	Sales and fees (minus)			
15	Gross fixed capital formation			

Annex C (Continued)

Questionnaire on government expenditures: collective services				
Enter amounts in national currency. Specify units.		Reference year		
Item no.	Description of item	Level of government		
		Central or federal (1)	Other levels (2) ^a	General (1) + (2)
1	Wages and salaries in cash			
2	Employer's contribution to social security funds			
3	Actual			
4	Imputed			
5	Benefits in kind			
6	Housing			
7	Transportation			
8	Food and meals			
9	Other in-kind benefits			
10	Intermediate consumption expenditure			
11	Other taxes (less subsidies) on production			
12	Consumption of fixed capital			
13	Net operating surplus			
14	Sales and fees (minus)			
15	Gross fixed capital formation			

Questionnaire on total government expenditures				
Enter amounts in national currency. Specify units.		Reference year		
Item no.	Description of item	Level of government		
		Central or federal (1)	Other levels (2) ^a	General (1) + (2)
1	Wages and salaries in cash			
2	Employer's contribution to social security funds			
3	Actual			
4	Imputed			
5	Benefits in kind			
6	Housing			
7	Transportation			
8	Food and meals			
9	Other in-kind benefits			
10	Intermediate consumption expenditure			
11	Other taxes (less subsidies) on production			
12	Consumption of fixed capital			
13	Net operating surplus			
14	Sales and fees (minus)			
15	Gross fixed capital formation			

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Annex C (Continued)

Source: ICP, <http://icp.worldbank.org/>.

Note: The definitions of the items in the questionnaires on government expenditures are as follows:

- *Item 1. Wages and salaries in cash.* This item covers all cash payments to government workers and includes overtime payments, performance bonuses, leave allowances, family allowances, cost of living allowances, and similar payments in addition to regular wages and salaries.
- *Item 2. Employer's contribution to social security funds.* If the government contributes to a social security fund in behalf of its employees, the economy is asked to enter the total amount of these contributions under item 3, actual. Many governments do not contribute to a fund, but they do provide their employees with pensions and health and other benefits. In this case, the System of National Accounts (SNA) requires economies to estimate what the contribution would have been if these benefits were being paid for from a social security fund. In item 4, economies should enter the estimate shown in their national accounts.
- *Item 5. Benefits in kind.* This item covers all benefits such as provision of free or subsidized food or meals, free or subsidized accommodation, and free or subsidized transport. All benefits in kind should be valued at the cost to government of providing them to its employees.
- *Item 10. Intermediate consumption expenditure.* This item consists of the goods and services purchased by government to provide health, education, defense, and all other services. This item may include rent, electricity, office supplies, teaching materials, and medical goods. It excludes any of the goods and services included as benefits in kind under item 5.
- *Item 11. Other taxes (less subsidies) on production.* These include employment taxes and taxes on property. Governments rarely impose taxes on themselves, and this item will be zero in most economies.
- *Item 12. Consumption of fixed capital.* This item should be based on capital stock estimates valued at current market prices. In practice, not many economies have these estimates and can only report depreciation based on historic (or "acquisition") values.
- *Item 13. Net operating surplus.* "Net" means that the operating surplus is calculated after deducting consumption of fixed capital. It is very rare that government agencies earn a net operating surplus, but it can happen that local authorities may earn a net operating surplus from a local bus or tram service, for example. For most economies, this item is zero.
- *Item 14. Sales and fees.* Sales and fees are "negative" consumption and must be deducted. They may include things such as museum entrance charges, passport fees, and licenses to own pets or firearms.
- *Item 15. Gross fixed capital formation.* This item consists mainly of government expenditures on plants and machinery, buildings, roads, bridges, and other structures. Expenditures on mineral exploration, development of orchards, timber tracts, land improvement, computer software, and databases are also included.

In these questionnaires, data should be supplied for the most recent year for which final estimates of government expenditures are available.

a. Other levels include state, municipal, and local governments.

Annex D

Aggregate Indicators, Pay and Employment Data, ICP 2011

Indicator	Metric	Value	Reference year	Definition/reference
<i>General indicators</i>				
GDP	Millions (local currency)			Total final expenditures at purchasers' prices, including the f.o.b. (free on board) value of exports of goods and services, less the f.o.b. value of imports of goods and services (World Bank 2008, 204)
Total population	Thousands			Total population is based on the de facto definition of population, which counts all residents regardless of legal status or citizenship—except for refugees not permanently settled in the economy of asylum, who are generally considered part of the population of their economy of origin (definition from WDI).
School-age population	Thousands			Population of the age group by level of education defined by economy's school system
Total labor force (LF)	Thousands			Persons ages 15 and older who are currently employed and persons who are unemployed but seeking work, as well as first-time job seekers
<i>Government recurrent expenditure indicators</i>				
Total general government recurrent expenditures	Millions (local currency)			Sum of "Compensation of employees" (<i>GFS Manual 2001</i> , para. 4.26) and "Use of goods and services" (<i>GFS Manual 2001</i> , para. 4.27) by "General Government" (<i>GFS Manual 2001</i> , pp. 10–14)
Total central government recurrent expenditures	Millions (local currency)			Sum of "Compensation of employees" (<i>GFS Manual 2001</i> , para. 4.26) and "Use of goods and services" (<i>GFS Manual 2001</i> , para. 4.27) by "Central Government" (<i>GFS Manual 2001</i> , pp. 10–14)
Total central civilian government recurrent expenditures	Millions (local currency)			Sum of "Compensation of employees" (<i>GFS Manual 2001</i> , para. 4.26) and "Use of goods and services" (<i>GFS Manual 2001</i> , para. 4.27) by "Central Civilian Government" (<i>GFS Manual 2001</i> , pp. 10–14)
Total subnational government recurrent expenditures	Millions (local currency)			Sum of "Compensation of employees" (<i>GFS Manual 2001</i> , para. 4.26) and "Use of goods and services" (<i>GFS Manual 2001</i> , para. 4.27) by "Subnational Government" (<i>GFS Manual 2001</i> , pp. 10–14)
<i>Wage bill indicators</i>				
General government wage bill	Local currency			General government is the <i>GFS Manual 2001</i> definition of "General Government" (pp. 10–14). Wage bill is total general government expenditures on "compensation of employees," as defined in <i>GFS Manual 2001</i> (p. 40, para. 4.26).
Central government wage bill	Local currency			Central government is the <i>GFS Manual 2001</i> definition of "Central Government" (p. 13, paras. 2.48–2.50). Wage bill is total central government expenditures on "compensation of employees," as defined in <i>GFS Manual 2001</i> (p. 40, para. 4.26).
Central civilian government wage bill	Local currency			Central civilian government is defined as "Central Government" net of defense. "Defense" is defined as in <i>GFS Manual 2001</i> , "Classification of Expense by Function of Government" (chap. 6 and annex to chap. 6). Wage bill is total central civilian government expenditures on "compensation of employees," as defined in <i>GFS Manual 2001</i> (p. 40, para. 4.26).
Subnational government wage bill	Local currency			Subnational government is defined as the sum of "State, provincial or regional government" and "Local government," as defined in <i>GFS Manual 2001</i> (pp. 13–14, paras. 2.51–2.58). Wage bill is total subnational government expenditures on "compensation of employees," as defined in <i>GFS Manual 2001</i> (p. 40, para. 4.26).

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Annex D (Continued)

Indicator	Metric	Value	Reference year	Definition/reference
<i>Employment indicators</i>				Employment is defined as total number of employees (within the specified subset of the public sector) on the payroll on a specified date (e.g., April 15, 20xx). Alternatively, the Full Time Equivalent (FTE) definition could be employed, but almost no governments actually track that. Thus the payroll definition is probably the most sensible one to employ.
<i>Number of employees</i>				
Total public sector	Thousands			Sum of public corporations and general government (see below)
Public corporations	Thousands			Defined as in <i>GFS Manual 2001</i> (pp. 14–15, paras. 2.59–2.63)
General government	Thousands			Defined as in <i>GFS Manual 2001</i> (pp. 10–14)
Central government	Thousands			Defined as in <i>GFS Manual 2001</i> (p. 13, paras. 2.48–2.50)
Defense	Thousands			<i>GFS Manual 2001</i> , Functional classification 702 (defense)
Central civilian government	Thousands			Defined as "Central Government" net of defense (see above)
Central civilian government exclusive of education, health, and police	Thousands			Central civilian government net of education, health, and police (see definitions below)
Education	Thousands			<i>GFS Manual 2001</i> , Functional classification 709
Primary	Thousands			<i>GFS Manual 2001</i> , Functional classification 7091 (pre-primary and primary education)
Secondary	Thousands			<i>GFS Manual 2001</i> , Functional classification 7092 (secondary education)
Postsecondary nontertiary	Thousands			<i>GFS Manual 2001</i> , Functional classification 7093 (postsecondary nontertiary education)
Tertiary	Thousands			<i>GFS Manual 2001</i> , Functional classification 7094 (tertiary education)
Health	Thousands			<i>GFS Manual 2001</i> , Functional classification 707 (health)
Police	Thousands			<i>GFS Manual 2001</i> , Functional classification 7031 (police services)
Subnational government	Thousands			Sum of "State, provincial or regional government" and "Local government," as defined in <i>GFS Manual 2001</i> (pp. 13–14, paras. 2.51–2.58)

Source: ICP, <http://icp.worldbank.org/>.

Note: *GFS Manual 2001* refers to the *Government Finance Statistics Manual 2001* (IMF 2001); WDI refers to the World Bank's World Development Indicators database, <http://data.worldbank.org/data-catalog/world-development-indicators>.

Annex E

Computed Indicators, Pay and Employment Data, ICP 2011

Indicator	Metric	Calculated value	Definition
<i>Wage bill indicators</i>			
General government wage bill per gross domestic product (GDP)	% of GDP		Ratio of general government wage bill to GDP
General government wage bill/total recurrent expenditures	% of total recurrent expenditures		Ratio of general government wage bill to total general government recurrent expenditures
Central government wage bill per GDP	% of GDP		Ratio of central government wage bill to GDP
Central government wage bill/total recurrent expenditures	% of total recurrent expenditures		Ratio of central government wage bill to total central government recurrent expenditures
Central civilian government wage bill per GDP	% of GDP		Ratio of central civilian government wage bill to GDP
Central civilian government wage bill/total recurrent expenditures	% of total recurrent expenditures		Ratio of central civilian government wage bill to total central civilian government recurrent expenditures
Subnational government wage bill per GDP	% of GDP		Ratio of subnational government wage bill to GDP
Subnational government wage bill/total recurrent expenditures	% of total recurrent expenditures		Ratio of subnational government wage bill to total subnational government recurrent expenditures
<i>Compression ratios</i>			
<i>Health services</i>			
Managerial-professional	Ratio		Ratio of average total remuneration for "1112: Senior government official " with 20 years of experience to average total remuneration for "2211: Generalist medical practitioner," entry level
Managerial-clerical	Ratio		Ratio of average total remuneration for "1112: Senior government official" with 20 years of experience to average total remuneration for "4313: Payroll clerk," entry level
<i>Collective services</i>			
Managerial-professional	Ratio		Ratio of average total remuneration for "1112: Senior government official" with 20 years of experience to average total remuneration for "2631: Economist," entry level
Managerial-clerical	Ratio		Ratio of average total remuneration for "1112: Senior government official" with 20 years of experience to average total remuneration for "4313: Payroll clerk," entry level
Managerial-elementary	Ratio		Ratio of average total remuneration for "1112: Senior government official" with 20 years of experience to average total remuneration for "9112: Cleaners and helpers in offices, hotels, and other establishments," entry level
<i>Education services</i>			
Managerial-professional	Ratio		Ratio of average total remuneration for "1112: Senior government official" with 20 years of experience to average total remuneration for "2341: Primary education teacher," entry level

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Annex E (Continued)

Indicator	Metric	Calculated value	Definition
Managerial-clerical	Ratio		Ratio of average total remuneration for "1112: Senior government official" with 20 years of experience to average total remuneration for "4313: Payroll clerk," entry level
<i>Public sector remuneration per GDP per capita</i>			
<i>Health services</i>			
Managerial	Ratio		Ratio of average total remuneration for "1120: Managing directors and chief executives" with 20 years of experience to GDP per capita
Professional	Ratio		Ratio of average total remuneration for "2211: Generalist medical practitioner" with 10 years of experience to GDP per capita
Clerical	Ratio		Ratio of average total remuneration for "4313: Payroll clerk" with five years of experience to GDP per capita
<i>Collective services</i>			
Managerial	Ratio		Ratio of average total remuneration for "1112: Senior government official" with 20 years of experience to GDP per capita
Professional	Ratio		Ratio of average total remuneration for "2631: Economist" with 10 years of experience to GDP per capita
Clerical	Ratio		Ratio of average total remuneration for "4313: Payroll clerk" with five years of experience to GDP per capita
Elementary	Ratio		Ratio of average total remuneration for "9112: Cleaners and helpers in offices, hotels, and other establishments," entry level, to GDP per capita
<i>Education services</i>			
Managerial	Ratio		Ratio of average total remuneration for "1112: Senior government official" with 20 years of experience to GDP per capita
Professional	Ratio		Ratio of average total remuneration for "2341: Primary education teacher" with 10 years of experience to GDP per capita
Clerical	Ratio		Ratio of average total remuneration for "4313: Payroll clerk" with five years of experience to GDP per capita
<i>Employment indicators</i>			
<i>Employment per capita</i>			
Total public sector per capita	Ratio		Ratio of total public sector to population
Public corporations per capita	Ratio		Ratio of public corporations to population
General government per capita	Ratio		Ratio of general government to population
Central government per capita	Ratio		Ratio of central government to population
Armed forces per capita	Ratio		Ratio of armed forces to population
Central civilian government per capita	Ratio		Ratio of central civilian government to population
Central civilian government exclusive of education, health, and police per capita	Ratio		Ratio of central civilian government exclusive of education, health, and police to population
Education/school-age population	Ratio		Ratio of education to school-age population

Annex E (Continued)

Indicator	Metric	Calculated value	Definition
Primary/school-age population	Ratio		Ratio of primary to school-age population
Secondary/school-age population	Ratio		Ratio of secondary to school-age population
Postsecondary nontertiary/school-age population	Ratio		Ratio of postsecondary nontertiary to school-age population
Tertiary/school-age population	Ratio		Ratio of tertiary to school-age population
Health per capita	Ratio		Ratio of health to population
Police per capita	Ratio		Ratio of police to population
Subnational government per capita	Ratio		Ratio of subnational government to population
<i>Employment per labor force (LF)</i>			
General government/LF	Ratio		Ratio of general government to LF
Central government/LF	Ratio		Ratio of central government to LF
Armed forces/LF	Ratio		Ratio of armed forces to LF
Central civilian government/LF	Ratio		Ratio of central civilian government to LF
Central civilian government exclusive of education, health, and police/LF	Ratio		Ratio of central civilian government exclusive of education, health, and police to LF
Education/LF	Ratio		Ratio of education to LF
Primary/LF	Ratio		Ratio of primary to LF
Secondary/LF	Ratio		Ratio of secondary to LF
Postsecondary nontertiary/LF	Ratio		Ratio of postsecondary nontertiary to LF
Tertiary/LF	Ratio		Ratio of tertiary to LF
Health/LF	Ratio		Ratio of health to LF
Police/LF	Ratio		Ratio of police to LF
Subnational government/LF	Ratio		Ratio of subnational government to LF

Source: ICP, <http://icp.worldbank.org/>.

NOTES

1. In some economies, pay scales for the police are based not only on position but also on rank. If this is the case, one would have to approximate the average ranks for the position and the average number of years required to be promoted to the position. Four levels of experience expressed in years would not be applicable. Instead, one would associate the remuneration of the position with one of four levels of experience based on how long it takes to reach a position corresponding to the average.
2. This section is based on an unpublished working paper, "Productivity Adjustment for Government Services PPPs: Alternatives and Proposal for ICP 2011," by Inklaar and Timmer (2013).

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