

DEFINING AND MEASURING PUBLIC SECTOR EMPLOYMENT: ROMANIA'S CASE

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Abstract: *This paper is about the number of public sector employees in Romania. Subsequent research questions relate to defining what is the public sector in Romania, what are the data sources on employment in public sector units, which is the quality of the data provided and what are the solutions for improvement of administrative records. The study is based on a desk-review of national and international studies on public sector employment and examination of different national data sources for statistics on public sector. The study provides recommendations for improving data accuracy, directed mainly to the Ministry of Public Finance.*

Keywords: *public sector employment; administrative data sources; government employees; public personnel.*

1. Introduction

This paper is about the number of public sector employees in Romania. The size of the public sector becomes critical especially in times of economic crisis (Alonso, 2011; Lee, Strang, 2003; Boc, 2011). However, defining what is public sector and most important, measuring it through reliable data sources is not always straightforward. Therefore, downsizing policy options should first carefully examine the information available at the lowest disaggregated level, with as much as possible additional economic and socio-demographic data.

The paper looks at the methodological issues related to defining and measuring public sector employment in Romania. The main research question is represented by how many public sector employees are in Romania. Subsequent research questions

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relate to what is the public sector in Romania, what are the data sources on employment in public sector units, which is the quality of the data provided and which are the solutions for improvement of administrative records.

The study is based on a desk-review of national and international studies on public sector employment and examination of different national data sources for statistics on public sector. The main data sources used are: (i) Ministry of Public Finance; (ii) National Institute of Statistics; (iii) Romanian Court of Accounts; (iv) National Agency of Civil Servants and (v) Fiscal Council.

The first part analyzes the structure of public sector employment, according to the definition provided by the System of National Accounts (SNA) 2008. Secondly, indicators on government employment are examined, together with data sources and data availability. Recommendations for improvement of administrative sources are presented in the last section.

2. Structure of public sector employment

One of the most important problems in statistics of public sector employment is the lack of comparability between different countries (Alonso, 2011; World Bank, 2001; OECD, 2005; Schiavo et. al, 1997). The main problem comes from defining what is 'government' or 'public sector'. Some of the most important methodological exercises for harmonizing and improving data accuracy in this field belong to the research programs developed by OECD, the World Bank and the International Labour Organization (OECD, 1997, 2006; Hammouya, 1999; World Bank, 2001). However, efforts are still needed for ensuring further data comparability in different aspects related to public sector: inputs, processes, outputs and outcomes. This paper focuses on inputs part at the national level, more precisely on measuring the number of public sector employees. Although it analyzes Romania's case, similarity of problems in different countries makes the discussions useful for various international contexts.

The most commonly used criterion used at international level is that of the System of National Accounts (SNA). Two subsequent criteria are used in the SNA: market/non-market and control/financing (see Figure 2). According to the SNA 2008, the public sector includes general government and public corporations. 'The general government sector consists mainly of central, state and local government units together with social security funds imposed and controlled by those units. In addition, it includes NPIs [non-profit institutions] engaged in non-market production that are controlled by government units or social security funds' (European Commission, International Monetary Fund, OECD, United Nations, World Bank, 2009, p. 65). We have therefore an extended definition of the public sector, including, as identified by Figure 1, the general government sector, public financial and non-financial corporations.¹

¹ The SNA divides the public corporations sector into: non-financial public corporations, financial public corporations other than the central bank and the central bank (SNA 2008, p. 439).

Figure 1
Public sector according to the System of National Accounts (SNA) 2008

Public sector			
General Government Sector			Public Corporations Sector
Government Units	Social Security Funds	Non-profit institutions	Public Financial and Non-Financial Corporations

Source: System of National Accounts (SNA) 2008.

The methodological guidance of the SNA provides specific criteria for delineation between public units, part of it included in the decision tree represented in the Figure 2. Data source for the system of national accounts is represented by the administrative records. Employment data under the SNA, relevant for the public sector, are not reported by Romania.¹

Within the public sector, the subsectors within government units identify the central, state (or regional government units) and local government units. Employment covers all persons, irrespective of the employment contract. Currently, the Government of Romania considers, as stated in the agreements with the IMF, that the general government includes 'the central government (state budget, treasury, self-financed state entities included in the budget, etc.), local governments, social security funds (pension, health, and unemployment), road fund company, and administration of the property fund' (IMF, 2012). It is not quite clear from this definition where ends the general government sector and where starts the public corporations sector. The same report states that an improvement will be made in order 'to cover state-owned enterprises incorporated into the general government accounts under ESA95, upon completion of the review being undertaken by Eurostat'. Hence, one important lesson is clearly drawn. An improvement in systematic and meaningful data collection on total public sector employment in Romania is needed. In particular, the public corporations sector remains in a 'grey area' of transparency.² Besides monitoring the expenditure size as stipulated in the current agreements with the International Monetary Fund, detailed data on employment should also be collected.

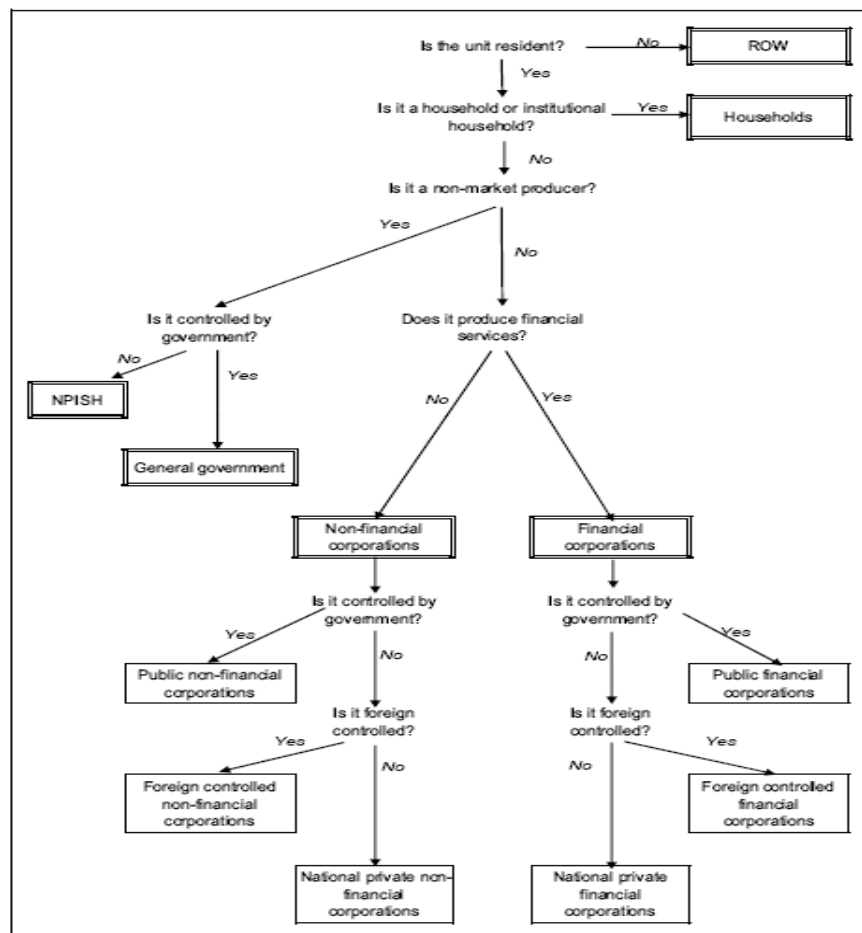
¹ According to Eurostat database, http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database, accessed March 29, 2012. We refer to NACE Rev. 2 classification, including public administration, defence, education, human health and social work activities.

² The following public enterprises are monitored through the Memorandum of Understanding between Romania and the International Monetary Fund (Government of Romania, IMF, 2010: (1) C.N. Căi Ferate CFR; (2) S.N. Transport CFR Călători; (3) CN a Huilei; (4) SC Termoelectrica; (5) C.N. de Autostrăzi și Drumuri Naționale; (6) S.C. Metrorex; (7) S.N. de Transport Feroviar CFR Marfă S.A.; (8) SC Electrocentrale București; (9) Societatea Comercială Electrificare CFR S.A.; and (10) S.C. Administrația Națională a Îmbunătățirilor Funciare. However, the size of the public corporations sector in Romania is much larger.

Another possible distinction for identifying the public sector employment is based on the status of employees. The 'best' situation is when all of them or the largest part are under a Civil Service Act, and are therefore clearly identified. However, the vast majority of public sector/government employees are represented by the contractual staff, therefore this distinction is not useful for the study's research question.

Most relevant data sources, with specific coverage of public subsectors, are discussed in the next section.

Figure 2
Allocation of units to institutional sectors, System of National Accounts



Source: European Commission, International Monetary Fund, 2009, p. 64

3. Indicators of government employment

Size of the public sector is generally measured, especially in terms of cross-country comparative data, in relation to the compensation of employees, employment and wage levels (Clements et. al, 2010; Alonso et al, 2011). With regards to government employment, the following indicators are mostly used: government employment as a percentage of total and private employment and government employment as a percentage of total population (For an extensive list of indicators and data sources on public employment see Sirovatka et al, 2012). Our main research question, that is how many government employees are in Romania, requires answering to a single indicator: number of employees in central and local government units. We assimilate county councils and municipalities to the local government units. However, the answer is not easily found.

At the institutional level, most recently, a protocol collaboration¹ for harmonization of statistics on the number of employees has been signed. The institutions represented in the protocol are: Ministry of Public Finance, National Institute of Statistics, Ministry of Labour, Social Solidarity and Family, National Agency of Civil Servants, National Agency of Fiscal Administration, National Agency of Public Pensions, Labor Inspection and National Commission of Prognosis. These institutions are also relevant for data on public sector employment (Figure 3). If we consider the public corporations sector, data are processed by the Ministry of Public Finance and the National Agency of Fiscal Administration, Ministry of Labor, Social Solidarity and Family and the National Institute of Statistics. Still, their situation is not straightforward clear. The situation is similar in other fields using multiple administrative data sources (Marin, M., 2009).

Figure 3
Institutional mapping of data sources on public sector employment

Institution	Registries/ Information administered	Source Type
Ministry of Public Finance	Central Government Finance and Number of Central Government Employees/ Positions	Administrative data source
National Agency of Fiscal Administration	Business Registry	Administrative data source
Ministry of Administration and Internal Affairs	Database on Local Public Administration	Administrative data source

¹ Signed on March 20th, 2012, <http://www.mfinante.ro/acasa.html?method=detalii&id=999566574>.

Institution	Registries/ Information administered	Source Type
Ministry of Labour, Social Solidarity and Family	Employees' Registry	Administrative data source
National Agency of Civil Servants	Central and Local Civil Servants Registry	Administrative data source
National Institute of Statistics	Household Labor Force Survey	Survey
	Labor Cost Statistical Survey	Survey
	Labor Force Balance	Survey
	Structural Business Statistics	Survey
	National Accounts	Administrative data sources

The diversity in official data sources and moreover, lack of coordination mechanisms between them transposes into coverage overlaps and methodological differentiation which results in different data for similar indicators, especially in what concerns the total number of employees.

For the subsector of government units, central and local government, the following administrative data sources have been identified: (i) Ministry of Public Finance; (ii) Ministry of Administration and Internal Affairs; (iii) Ministry of Labour, Social Solidarity and Family and the (iv) National Agency of Civil Servants. The National Institute of Statistics is a user of administrative data sources as well as a producer for the statistics on employment (based on survey data). This case will be separately discussed.

Given the multiple data sources, with different coverage, consolidation of data is necessary. Most probably, the Ministry of Public Finance should play/plays this role. We will examine in what follows data available with the administrative data sources, analyzed from the point of view of quality of the indicator (Platek and Sarndal, 2001; Hoffman, 2003). These criteria refer to: population coverage, units of observation, main and descriptive variables – data consistency, availability of disaggregated information as well as data transparency.

4. Data sources and data availability

Population coverage is the key criterion which differentiates the data sources presented in Figure 3.

Let us take the example of the Ministry of Public Finance. First, a distinction concerning data transparency should be made. The paper uses mostly secondary data sources, based on the Ministry of Public Finance, as the Ministry in itself does

not publish consolidated data on the number of public sector employees. One of the dataspource used in this paper is Boc, 2011. The former Prime Minister of Romania uses data on the public employees, computed based on unpublished internal documents.

A request for greater transparency concerning data on employment and average earnings in the public sector are also addressed by the Fiscal Council to the Ministry of Public Finance, in relation to the process of drafting the State Budget Law: ‘The draft budget report does not explicitly state the number of employees and average wage in the public sector underlying the medium - term personnel expenditure path. Lacking these assumptions, it is difficult to asses the consistency of the personnel expenditure projection’ (Fiscal Council, 2012, p.8).

The Ministry of Public Finance uses two indicators: (i) maximum number of positions (vacant and occupied), and (ii) number of occupied positions. The latter one is used for reporting purposes. The indicator covers government units and social security funds. It also includes part of self-financed institutions, such as health and education units, although it is not clear which part of them belongs to the central vs. the local government.¹

As units of observation, the documents examined with data source represented by the Ministry of Public Finance use either the term ‘position’ or ‘employee’. ‘An occupied position’ (post ocupat) is usually assimilated to an employee (Fiscal Council, 2011). Specific definitions are not explicitly made. These are the data used for monitoring the structural reforms, as envisaged in Romania’s agreement with the International Monetary Fund (IMF, 2011).

Figure 4
*Number of employees (occupied positions) in government units
(thousands persons)*

	2005	2006	2007	2008	2009	2010	2011
Total government units	1,232.60	1,281.40	1,360.00	1,398.76	1,380.00	1,266.55	1,255.13
Total local government units	599.20	595.30	613.40	644.00	633.00	626.83	N.A.

Source: Romania Court of Accounts, 2009 for 2005-2007, Fiscal Council, 2011 for 2008-2010, Boc, 2011 for 2011 (July 2011). Note: As shown in the next figure, there is a data inconsistency between the data provided by the Ministry of Public Finance to the Court of Accounts and those provided by the same Ministry to the Fiscal Council.

¹ Part of hospitals have been transferred under the responsibility of local authorities in 2010.

As shown in Figure 4, there has been a constant increase in the number of employees in local government units in the period of 2005-2008. However, the analysis conducted for the local public administration, covering the period previously mentioned, concludes that what has been the key factor in increasing the personnel public expenditures is not the rising number of public positions but the increased wage bill (including bonuses) (Romania Court of Accounts, 2009, p.12).

Figure 5
Data consistency on the number of occupied positions in the public sector, for the year of 2008

Primary Source	Secondary Source	Value of the indicator for 2008
Ministry of Public Finance	Romania Court of Accounts, 2009, p. 4	1,395.1 thou
Ministry of Public Finance	Fiscal Council, 2011, p. 19	1,398,757
Ministry of Public Finance ¹	World Bank, 2009, p. 2	1,353,180

Furthermore, data for the same indicator, number of occupied positions, same period of time (2008), with the same primary source (Ministry of Public Finance) differ between data sources (Figure 5). One possible explanation is that it has been processed at different moments of time. However, it also means that the Ministry of Public Finance should set a more rigorous data collection system² and a specific time frame (like end of the year) for making publicly available, for all sources, the number of occupied positions in the public sector in Romania.

The Ministry of Administration and Internal Affairs processes only data from local government units. Most important information refers to expenditures rather than employment. However, the publicly available database displays information on the maximum number of positions as provisioned in the Government Ordinance no. 63/2010.

The Ministry of Labor, Social Solidarity and Family uses the Employees Registry which covers all employees with an individual labor contract. However, it does not cover the civil servants, under the provisions of the Statute of the Civil Servants (Law no. 188/1999). Moreover, it does not publicly display statistics disaggregated either

¹ Ministry of Economy and Finance by the time the WB research has been conducted.

² Than the one provisioned in the Governmental Emergency Ordinance (G.O.) no. 48/2005, on measures regarding the number of positions and personnel expenditures in the budgetary sector.

under activities or forms of ownership. Nevertheless, theoretically, the information included in the electronic program REVISAL could be aggregated considering the units of interest for the public sector.

The National Agency of Civil Servants covers all public positions (n.a. Romanian 'functie publica') and civil servants in all government units and social security funds. The indicators reported by this agency cover both position, as well as person (civil servant). However, they account for only a small part of the total public sector personnel (around 10% of all employees in central and local government positions, including social security funds). Data on civil servants are disaggregated by gender, education, grade of the civil servant.

Figure 6
Number of civil servants in government units

	2006	2007	2008	2009	2010
Central government	58,796	76,467	69,720	59,883	64,948
Local government	42,655	44,669	52,650	53,061	55,736
Total	101,451	121,136	122,370	112,944	120,684

Source: National Agency of Civil Servants, 2007-2010 and Stan, V., Renert, C., 2007, for data on 2006

The data from the National Agency of Fiscal Administration together with the Structural Business Survey managed by the National Institute of Statistics are especially important for gathering data on the public corporations sector. A specific registry that will differentiate the public corporations sector from the rest of the companies should be put in place, to serve the data collection process for both institutions.

The National Institute of Statistics conducts several statistical surveys relevant for registering public sector employees: (i) Household labor force statistical survey, registering employment and ILO unemployment; (ii) Labor cost survey registering number of employees; (iii) Labor force balance, for data on civil employment. An additional source of information regarding earnings in public vs. private sector is the Family Budgets Survey which collects data on incomes from all sources. It has been used for conducting studies on earnings in public vs. private sector (Voinea et al., 2010). However, all of them are statistical surveys, based on a specific methodology for estimations. Due to lack of data availability with detailed socio-economic information on public sector employees from administrative records, they represent however one of best sources of information. For our research question, the problems with the NIS data are mostly related to population coverage.

The Labour cost survey and Labor force balance exclude the personnel of armed forces and similar staff (Ministry of National Defence, Ministry of Administration and Interior, Romanian Intelligence Service etc) (National Institute of Statistics, 2011). It is difficult to estimate the exact information gap as the data from the Ministry of Public Finance are not disaggregated under the civil employment and military staff. Estimates can be obtained from summing up the total number of occupied positions as provisioned in the Annual Budget Laws (Ministry of Public Finance, 2011).

The Household Labor force statistical survey collects data on employment for all persons aged 15 years and over, who carried out an economic activity producing goods or services of at least one hour during the reference period (one week) in order to get income as salaries, payment in kind or other benefits (NIS, Tempo online database). It covers civil servants, assimilated to the employees with an individual labor contract. It represents the official data source on public sector employment in Romania in the statistical database of the International Labour Organization (Public sector employment in the LaborSta database).

Figure 7
Employment according to NACE Rev.2, Labor Force Survey¹

Activities of national economy according to NACE Rev. 2		2008	2009	2010	2011- First quarter	2011- Second quarter	2011- Third quarter
Public administration and defence; social security funds	Total	465,516	489,945	471,048	463,353	460,609	464,154
	Urban	351,994	375,324	360,298	346,966	349,146	365,552
	Rural	113,522	114,621	110,750	116,387	111,463	98,601
Education	Total	399,375	386,140	385,172	395,045	388,841	394,210
	Urban	299,505	289,080	293,519	304,176	296,059	298,082
	Rural	99,870	97,060	91,653	90,869	92,782	96,128
Health and social assistance	Total	380,536	394,645	403,111	396,331	400,462	409,053
	Urban	311,835	321,795	331,313	328,980	328,769	338,866
	Rural	68,701	72,850	71,799	67,351	71,693	70,187
Total		1,245,427	1,270,730	1,259,331	1,254,729	1,249,912	1,267,417

Data: National Institute of Statistics, Tempo online database, www.insse.ro

Besides the fact that the data from the Labor Force Survey are estimations based on the population size, data on employment, as shown in Figure 7, also include all forms

¹ Data included in ILO database on public sector employment differ from the ones presented in Figure 7.

of property – public, private, mixed, or cooperate. Distinctions are necessary to be made. Therefore, the exact figure of government employees is difficult to be estimated from this research. It is however very useful to consider it for in-depth analyses considering only public units, as it provides detailed information on socio-demographic characteristics.

The international experience, comparing information from the Labour Force Survey (LFS) and administrative records showed that the LFS 'does not provide a fully reliable measure of the total number of employees in the public sector', because 'it is a social survey, based on responses and self-classification from individuals in private households' (UK Office for National Statistics, 2012). It is usually an over-estimation, as respondents find it difficult to classify themselves according to the System of National Accounts (ibid.)

5. Conclusions and recommendations

This paper has clearly shown the importance as well as challenges of defining and measuring employment in the public sector. Answering to our key research question, how many public sector employees in Romania, results in different answers provided by different institutions or in different answers from the same institution. The main explanation resides in differences in population coverage but also in lack of using a methodological approach responding to the international standards. In this respect, improvement of administrative records becomes critical.

The main administrative source is represented by the Ministry of Public Finance. In order to become a reliable data source for this indicator, the first step would be to delineate the public financial and non-financial corporations. Besides monitoring the expenditures side, a monitoring system for detailed information on employment should be put in place for the public corporations sector.

Furthermore, the same central government institution should: (i) extend the coverage of data on employment to all public sector units; (ii) increase data consistency; (iii) consolidate information and improve coordination mechanisms with other sources: Ministry of Administration and Internal Affairs, National Agency of Civil Servants, Ministry of Labor, Social Solidarity and Family and the National Institute of Statistics; (iv) besides the number of occupied positions, collect information on socio-demographic variables such as gender, education, age, professional record, etc.; (v) provide transparent data on public sector employment as primary data source for Romania. The latter recommendation includes establishing a coherent communication strategy for all interested parties as well as public display of disaggregated level by type of unit, status of employees (civil servant/ contractual personnel), individual unit, socio-demographic variables, etc.

Most of the recent discussions on public sector size monitor a target on personnel expenditures of 7.2% of GDP for 2012. Moreover, a structural reform of the state is announced. Yet, some basic questions need to be answered: how many public sector employees? How many in government units/ public corporations? Are they well or rather poor educated? Are they young or middle/aged? Are there more female than male employees? What is their professional record, not to mention the necessity of a reliable sampling frame for conducting representative survey on their attitudes, opinions, motivation, quality of life, etc. For the time being, these questions are difficult, if not impossible to be answered in an accurate and comprehensive manner.

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International Labour Organization, LABORSTA, <http://laborsta.ilo.org/>

Legislation

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Governmental Emergency Ordinance (G.O.) no. 48/2005, on measures regarding the number of positions and personnel expenditures in the budgetary sector

Governmental Ordinance (G.O.) no. 63/2010, on modifying and supplementing the Law no. 273/2006 on local public finance, as well as on establishing some financial measures

COMMUNITY PERCEPTIONS AS A COPING RESOURCE AMONG ADOLESCENTS LIVING UNDER ROCKETS FIRE: A SALUTOGENIC APPROACH

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Abstract: *The study examines community perceptions as coping resources among youth living in areas under rocket fire in the south of Israel. Community variables were examined as potential moderators and mediators of emotional reactions to stress. Data were gathered during 2007-2009 from 284 Israeli adolescents. State anger and sense of hope were measured as stress reactions. Adolescent community perceptions were investigated using a measure which integrated sense of community coherence and sense of community, and included four dimensions: influence, meaningfulness, comprehensibility and belonging to community life (IMCB). Type of community and community perceptions (IMCB) were found to be significant in explaining state anger and hope. In addition, interviews were conducted with 10 key persons working with youth in Sderot and in the kibbutzim, which enable a better understanding of the community profiles in which teenagers were living under the ongoing stress situation. Community perceptions as coping resources among youth are discussed against the backdrop of the salutogenic and ecological theoretical frameworks.*

Key-words: *Salutogenesis; coping resources; community perceptions; adolescents; stress.*

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