

A comparative assessment:

performance vs governance of SOEs in Romania, Italy, Bulgaria and Czech Republic

Ana Otilia Nuțu



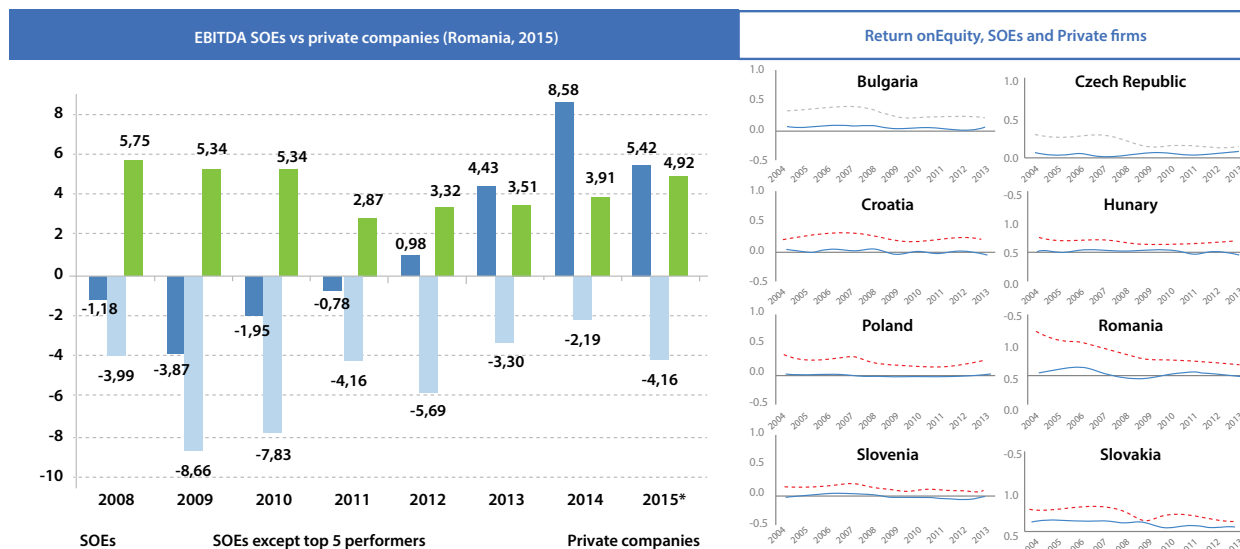
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Extensive research has been undertaken on the issue of SOEs in recent years, in particular by OECD, IMF and the European Commission. This previous body of research focuses both on issues of governance (general corporate governance and specific challenges for SOEs) and performance, mostly correlated with governance to demonstrate that improvements in governance are accompanied by an equivalent improvement in performance. However, the current definitions of “performance” are not altogether satisfactory or systematic, as they do not properly account for the particularities of SOEs. This policy brief challenges the current view of “performance” for SOEs for benchmarking purposes and proposes an alternative research method for performance based on a proper definition of the term in the particular case of SOEs. Indeed, as will be shown below, we also find that good governance leads to better performance – but more importantly, the correlation is more visible when performance is appropriately defined.

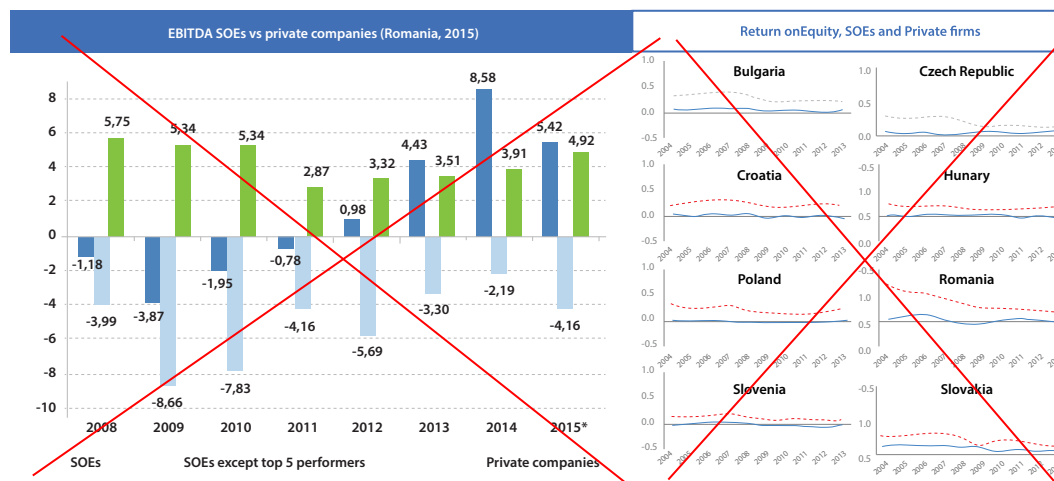
Are SOEs really like private companies?

It is tempting to see SOEs as regular companies – after all, they are incorporated entities, following the same establishment rules, accounting methods and reporting to fiscal authorities and auditors as private companies. As a consequence, it is not uncommon to see in papers on SOEs graphs like the ones below.



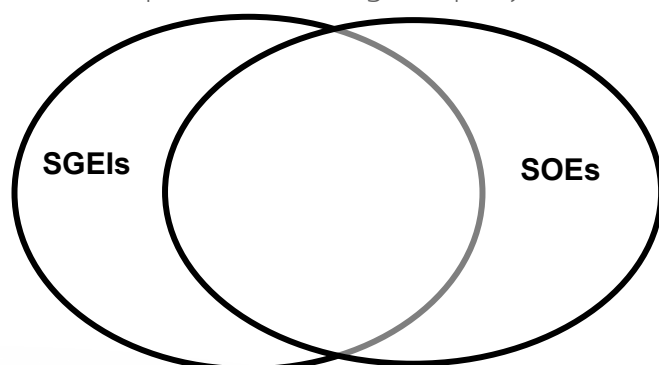
Source: left - Fiscal Council Report on SOEs in Romania, 2017 - <http://consiliulfiscal.ro/5-ian-2017-1.pdf>; right - European Commission: SOEs in the EU: Lessons Learnt and Ways Forward in a Post-Crisis Context, Institutional Paper 031, July 2016

How appropriate are these measures? Are SOEs really “benchmarkable” to private companies? Or are they somewhat different than their private peers? A concrete example: can we compare the profitability of a roads management company or a public television to a private producer of phones? Intuitively, we feel there is something amiss and such comparisons are not actually valid.



So, then, what are SOEs and why do they really exist?

SOEs are not just regular commercial companies with the state as a majority or sole shareholder, only waiting for its dividends at the end of the year to be transferred to public budgets. Most SOEs have mixed objectives. Some indeed provide commercial goods and services on a market. But others can operate more like public agencies, receiving transfers from the public budgets or other forms of state aid¹ to perform a service or provide a good accessible to citizens. Most SOEs actually fall in between, providing both public goods and services and selling commercial products. To formalize this distinction, the clear separation line is between Services of General Economic Interest as per EU's extensive definitions and jurisprudence of state aid rules², and commercial activity. Most interestingly, not only SOEs can provide SGEI; also, not all SOEs do provide SGEIs at all. There are private companies providing SGEIs – such as, for example, railway passenger transport services. The SGEI component that the state wants supported is the traffic safety and environmental benefits from substituting car travel with a train ride. This service can be provided by a SOE or by a private company – in each case, for fair competition, the principle enshrined in EU's state aid policy is that the budget must pay for the SGEI through a clear transfer targeted at benefitting directly the consumer, regardless of who is the service provider, SOE or private company. Also, SOEs can be purely commercial companies, particularly in SEE countries – e.g., a not yet privatized chemical producer, mining company or electricity generator.

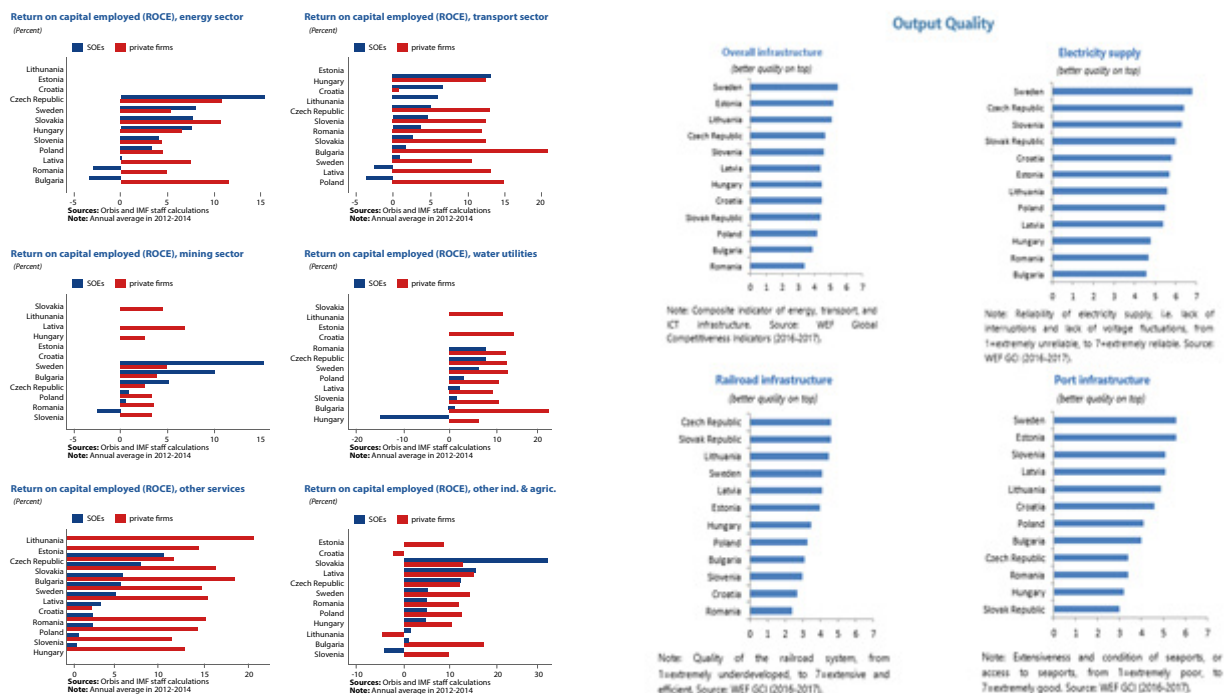


1. State aid can take many forms. They can be budget transfers or amounts collected by regulation from beneficiaries. Examples of the latter are the tax for public TV/radio paid for by consumers; green certificates schemes by which consumers of electricity pay an additional amount that is then transferred to green energy producers etc. Though these are not paid by the budget, they are subject to specific regulations and are amounts that would not be collected in purely commercial markets.

2. http://ec.europa.eu/competition/state_aid/overview/public_services_en.html

How can one still measure, analyze and benchmark performance considering the above?

Current research by IMF, OECD and EC partly acknowledges the difficulty and found several ways to bypass it. The most common is sectorial benchmarking: see below two examples. One can “benchmark” by sectors both financial performance and output. Sectorial comparisons have the advantage that companies operating in a particular sector generally share a similar split between SGEI/commercial activities – though not always. For example, IMF, OECD and EC include in the “transport sector” very varied activities and subsectors, from infrastructure management (construction, maintenance, upgrades of roads, railways, ports, airports) to transport services operation (cargo and passenger transport). The level of SGEI is quite uneven across these sub-activities, with infrastructure mostly paid for by budget transfers and only to a limited extent by users; and cargo/passenger transport more commercial, the majority of financing coming from consumers and the level of state-sponsored SGEI more limited.



Source: left – IMF WP/17/221 – SOEs in Emerging Europe: the Good, the Bad and the Ugly, 2017; right: European Commission: SOEs in the EU: Lessons Learnt and Ways Forward in a Post-Crisis Context, Institutional Paper 031, July 2016

Another common “benchmarking” method to assess performance, particularly promoted by IMF, is to examine pre- vs post-privatization performance of SOEs. This works only for SOEs that are “commercial” enough for private investors to be interested in them, e.g. a roads infrastructure company would not likely be privatized. It can also cover only a limited period in time (a few years around the privatization date).

Is there another way to address performance systematically?

In principle, there are two options.

- 1) Full implementation of the SGEI/Public Service Obligation principles enshrined in EU law and jurisprudence, in all member states. This would mean that SGEI are

clearly defined in national legislation; budgeted for yearly in the public budgets approved by Parliaments; and the state has a clear ownership policy that ensures the SGEIs are met for by the SOEs and financed through budget transfers, not by cross-subsidies between commercial activities and SGEI performed by the same SOE. If this is done, the SOEs can have a clear separation of commercial activities and SGEI / PSOs, and the two parts of the SOE's activity can be examined separately. Commercial activities could be benchmarked to private companies; SGEI could be examined in terms of value-for-money and output per unit of input. This option is desirable and doable in the long term, but requires consistent efforts, not only in CEE, but also in Western countries where the state has traditionally owned large SOEs for provision of public goods and services, financed through a combination of cross-subsidies with commercial activities and subsidies from the state.

- 2) **As a suboptimal version, but doable at present, one can define sets of indicators based on SGEI/commercial split** by company type or subsector. This is not too different from the sectorial approach of IMF, OECD, EC, but considers the grouping in sectors and subsectors based on SGEI/commercial split – e.g., instead of aggregating Transport indicators, focusing separately on infrastructure, cargo and passenger transport. In other words, the guiding criterion for relevant comparisons should be the SGEI/commercial split, rather than “sector” by itself. This is the method we used to analyze and compare SOEs in 4 countries (Romania, Bulgaria, Italy, Czech Republic).

What we did

1. We sampled a number of SOEs in the 4 countries. We selected them to ensure a reasonable coverage of a broad range of issues concerning SOEs: central vs local SOEs, in the main “sectors” of the economy, SGEI vs commercial split, and as much as possible comparable across countries. The list of companies is provided below.

	RO	IT	BG	CZ
CENTRAL / REGIONAL				
Roads	CNADNR	ANAS	MRDPW	RSD
Railways	CFR Calatori	Trenitalia	BDZ (passenger)	CD (passenger)
Electricity	HE, CEO, ELCEN	IREN	NEK	CEZ
Gas	Romgaz	IREN	Bulgargaz	
Ports	Constanta		Varna	
Airports	OTP		Sofia AP	
Forestry	Romsilva		SW SOE - Blagoevgrad	Lesy Ceske
Post	Posta Romana		BG Post	Ceska Posta
LOCAL				
Urban transport	RATB	Metro Milanese	Sofia Metropolitan	DPP
DH	RADET	IREN	TOPLO	
Water	Apa Vital	AMIU Genova, AQUE Torino	Russe water	
Waste		AMIU Genova		

We were also interested to examine to what extent governance leads to better performance. Based on the in-depth country reports and the research behind, we asked all experts to provide “grades” 1-5 on how well/how poorly the SOE is governed and color-coded the results for better illustration. The “grades” are a mix between general corporate governance framework in the country, sectorial legislation, effectiveness of controls and sanctions (administrative and criminal) for breaches of law, and the particular situation of the governance of each company. We also ensured that the assessment is consistent across countries to allow for comparability. The best governed companies are in the Italian sample, where there is a strong corporate governance legal framework (even excessive in some cases, such as on reporting requirements). Romania’s broader governance framework has improved significantly in recent years, though it is applied unevenly across sectors and SOEs, and strong reversals of previous reforms are noted in 2017 (e.g., the weakening of the corporate governance of SOEs law, loosening of hard budget constraints, establishment of new SOEs with clientelistic leadership and poor controls etc.). Czech companies in the sample are quite well-governed and there is a well-established practice of appointments of professionals in the boards and management, though the general corporate governance legal framework does not look as well on paper as in Italy or Romania. In Bulgaria, the legal general governance framework and controls are not as well designed as in other countries, but individual SOEs could be better or worse administered in practice.

	RO	IT	BG	CZ
CENTRAL / REGIONAL				
Roads	CNADNR	ANAS	MRDPW	RSD
Railways	CFR Calatori	Trenitalia	BDZ (passenger)	CD (passenger)
Electricity	HE, CEO, ELCEN	IREN	NEK	CEZ
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Airports	OTP		Sofia AP	
Forestry	Romsilva		SW SOE - Blagoevgrad	Lesy Ceske
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DH	RADET	IREN	TOPLO	
Water	Apa Vital	AMIU Genova, AQUE Torino	Russe water	
Waste		AMIU Genova		

Color coding: red – very poor governance, dark green – very good governance

2. Place sampled SOEs on the continuum SGEI – commercial

Next, we dealt with the major constraint highlighted above – the issue of mixed objectives of SOEs that does not allow for valid benchmarking before clarifying the split between objectives. We arranged the SOEs in all the 4 countries on a continuum between provision of public goods and services (PSO/SGEI) and fully commercial. It must be noted that most countries do not have a unitary vision of SGEI, but mostly fragmentary approaches by sectors or SOEs; however, similar SOEs perform similar functions in the countries

analyzed and could be placed on the continuum based on these similarities. At the SGEI extreme we have roads companies, which generally finance their works, maintenance, upgrading of networks etc. from transfers from the public budgets, e.g. through the Ministries of Transport. Roads companies operate mostly like public agencies (and many have been actually public agencies until recently when they have been incorporated). These companies indeed have a limited “user charges” component (e.g., vignette, road tolls), which would justify shifting their position a bit towards the “commercial” side, but these charges form a very small fraction of their total funding. At the other extreme, electricity and gas producers operate mostly as commercial companies, charging their users and operating lately as deregulated companies in liberalized energy markets. Indeed, in countries where energy market liberalization has been completed, they have private competitors. In between there are a lot of companies, e.g. railway passenger services, financed partly through consumer charges (tickets) and subsidies per consumer, acceptable by EU rules through clear PSO contracts. Also in between there are companies which operate on a commercial basis but are fully regulated, e.g. electricity transport grids: their revenues and expenses are strictly regulated by a specialized regulator, thus managers cannot be held accountable for “performance” in the same way as a private company manager could be held accountable. The management’s success should be assessed by the long-term sustainability of the system (development, reinforcement of grids, investments in system stability etc.).

Public services / goods				Commercial services / goods	
Budget pays (general taxation) Public agency				Consumers pay (price) For-profit company	
SOEs					
Performance: delivery @ reasonable cost		Clear separation public goods / profit		Performance: profit maximization	
CNADNR, ANAS	RAI Uno		Posta Romana		<input type="text"/> Hidroelectrica HPP
MRDPW, RSD	TVR public television	TOPLO	Ceska Posta	Romsilva forest management	
CFR Infrastructure		RADET DH	BG Post	SW SOE - Blagoevgrad	Romgaz, Bulgargaz sup
		IREN DH		Lesy Ceske	
	CFR Calatori		Port Constanta, Burgas	TAROM airlines	
	Trenitalia		Aeroport Otopeni, Sofia Airport		IREN gas
	BDZ Passenger			Russe Water	IREN electricity <input type="text"/>
	CD Passenger			AMIU Genova	NEK CEZ
	RATB, Metro M		CFR Marfa	Apa VitaI, IREN water	CE Oltenia electricity
	Sofia Metro, DPP			AQUE Torino	
			Transelectrica (regulated), Bulgargaz pipes	ELCEN	

3) Define indicators comparable across companies placed on same spot on the continuum.

Companies placed on the same spot between Public service and Commercial could be benchmarked directly and performance could be defined in a similar manner. The future “performance” indicators should take into account the specificity of the SOE’s business and also focus on certain areas of risk: where is the SOE most likely to fail in performance? In the table above, performance means from delivery at good quality within least cost (SGEI), analyzing output per unit of public funds used, to profit maximization in commercial activities. For companies in between, profitability and outputs can be benchmarked across companies within the same category, similar to IMF’s approach

on sectors, but ensuring that all companies within a sector have the same profile in terms of SGEI vs commercial activity. In other words, for example, one must benchmark separately energy producers (more commercial) from network operators (fully regulated).

We started off from a very large list of possible indicators, defined by sectors:

Energy sector / mining:

- Percentage of overheads: Overhead/revenues; overhead/installed capacity; overhead/distribution assets (both in \$ and in km of wires and number of transforming stations); overhead/number of consumers; overhead/sales to consumers (as opposed to wholesale market)
- Cost of coal / oil / gas per MWh (procurement)
- Price of electricity EUR/MWh in direct contracts vs similar contract on power exchange (underestimated sales)
- output (GWh) or turnover (EUR) per employee; arrears as share of turnover, correlation of arrears with electoral cycles
- overdue receivables / turnover

Transportation – railways:

- Percentage of overheads: Overhead/revenues; overhead/number of clients; overhead/sales to clients
- output (person-km, tons) / employee; revenue (EUR) / output (traffic, tons); profitability compared to private counterparts.
- procurement: cost per car /locomotive, SOE vs private.
- miscellaneous (non-core activity related) procurement / total procurement (highlights if company procures useless supplies)
- Freight transport - sales: price per ton of major commodity (e.g. coal), SOE vs private freight transporters
- Overdue receivables / turnover, SOE vs private transporter (e.g., SOE allows clients to default on payments)
- turnover / employees

Water-sewage operator

- Price / km of newly build sewer main, Price / km of newly build water main
- Price per unit of service (usually m³)
- overhead/number of consumers; overhead/sales to consumers
- miscellaneous (non-core activity related) procurement / total procurement
- turnover / employees

Local public transportation

- Price for client served
- Number of employees (other than direct operators) / number of clients
- Price of insurance per vehicle
- overhead/number of clients; overhead/sales to clients
- turnover / employee
- OPEX / turnover
- revenue (tickets + subsidies) / clients
- procurement: cost per vehicle (bus; tram; trolleybus)

- miscellaneous (non-core activity related) procurement / total procurement

Construction contracts / infrastructure (for public authority-like SOEs)

- Cost per km of newly built motorway / standard national road
- Cost per km of yearly maintenance of motorway / standard national road
- Profitability of commercial partners (contractors), national vs foreign; national vs EU funds
- miscellaneous (non-core activity related) procurement / total procurement
- turnover / employee

Postal services:

- arrears / turnover; correlation of arrears with electoral cycles
- turnover / employee
- miscellaneous (non-core activity related) procurement / total procurement
- profitability benchmarked with private postal services?

Forestry:

- arrears / turnover; correlation of arrears with electoral cycles; turnover / employee
- miscellaneous (non-core activity related) procurement / total procurement
- area of forest managed by SOE/ total country surface (evolution in time)³

4) We then **tested and reduced the total number of indicators to a manageable maximum 10 indicators, comparable across time and across countries**, to measure variations in performance and possibly correlate with changes in governance or with governance differences across countries and companies. The criteria used included: available data, comparability and relevance to capture the essentials in performance vs governance in the companies and sectors. To explain variations, we went into details, analyzing and collecting data for more indicators from the extended list in 3.

The list of reduced indicators includes:

- Roads: Total investment cost / network km
- Railways - passenger: cost/passenger-km (total operational costs/passenger-km)
- Energy, gas: profitability benchmarked with similarly structured companies and GWh/employee
- Ports: traffic per employee (airports – passengers; ports – cargo)
- Forestry: profitability vs conservation / management of forests⁴
- Postal services: benchmarking of profitability (considering all similar SIEG)
- Urban transport: cost/passenger-km; water: cost/m³ – this can be used however with strong limitations and more relevant benchmarking is across time for the same municipality, to examine improvements / changes in management of the

3. In the final analysis we excluded forestry from performance monitoring because of the very large differences across countries and also variations in time in individual countries, such as changes of ownership, changes of objectives of SOEs in forestry etc. Data available is also of questionable quality, particularly considering illegal logging in Romania, for example, not captured in Eurostat statistics though highlighted as a major issue in reports of environmentalist NGOs, in particular Greenpeace. Labor productivity across forestry management companies also varies significantly depending on topographic conditions. However, one recent study captures the variability in organization, management and performance of SOEs in forestry in Europe: State Forest Management Organisations in Europe: A comparison using Principal Component Analysis and Cluster Analysis, Anna Liubachyna, Antonio Bubbico, Laura Secco and Davide Pettenella, available at <https://www.preprints.org/manuscript/201710.0054/v1/download>, October 2017, which also covers the countries in our study.

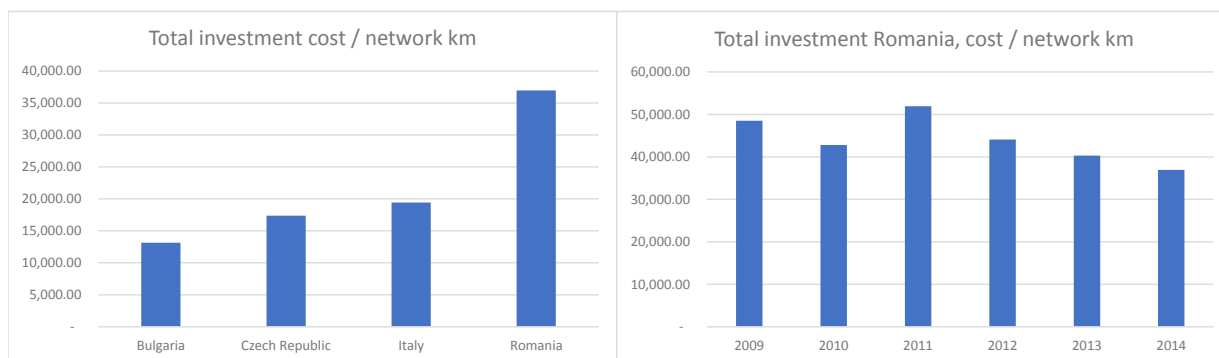
4. See note above.

utility's operation.

- DH: arrears or subsidies/GCal

We can apply the short list of indicators for benchmarking across countries, and indicators from the long list to further explain causes for performance variations in individual cases. Thus, applied to the specific sectors, we build on data the indicators proposed above.

1) Roads: Total road investment cost / network km



Source: OECD data, own calculations.

As can be seen from the graphs above, the same indicator (total costs of investments in new infrastructure, capital repairs, upgrades of existing network, divided by the total network length) shows a relative overspending in Romania compared to the other countries. This can be explained in part by the large backlog in infrastructure investment in Romania in the past, but also the fact that procurement might be overestimated – the governance score for each of the road companies in the study indicates that the matter is worth investigating deeper in the case of Romania. In the case of CNADNR, the very low score of governance is given for the high turnover of political appointees (in breach of the corporate governance legislation in Romania); and the numerous scandals of corruption and conflicts of interest.

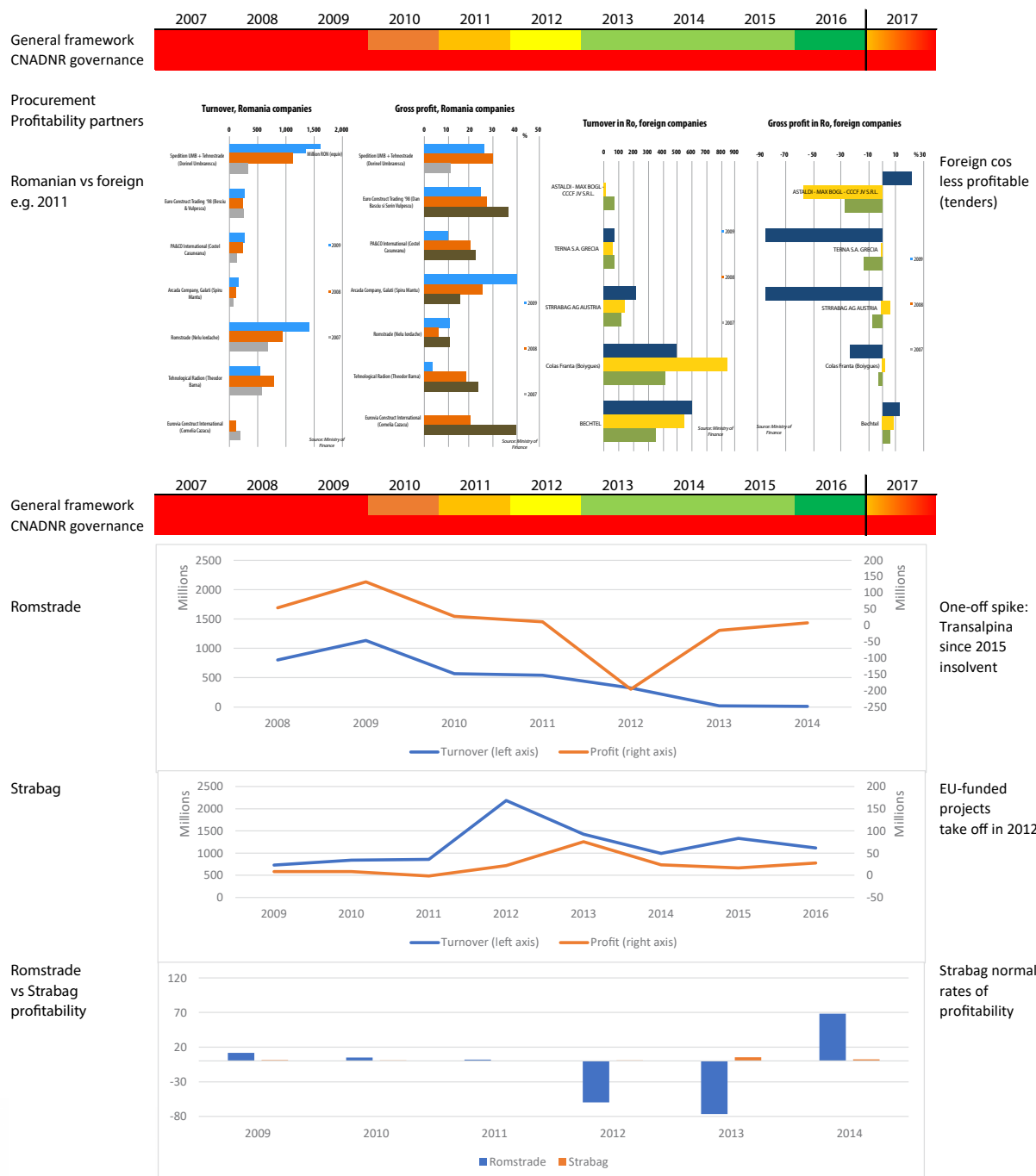
	RO	IT	BG	CZ
Roads	CNADNR	ANAS	MRDPW	RDS

Finding the exact cause for the poor performance of the Romanian roads company CNADNR requires additional research: for example, an additional hint is available in a report of the Romanian Competition Council, which highlights that costs for construction of motorways in Romania are 3 times more expensive than in Bulgaria for the same topographic conditions⁵. The first step is to analyze the evolution of total investment cost / network km in Romania: we see an unusual spike in 2009 (a crisis year!) and 2011, two years where the absorption of EU funds – the most important source for motorway construction – was extremely low, close to zero. In the country report we went into in-depth analysis of the Romanian roads company to identify the reason. In 2009-2011, there was for example a big case of suspected corruption, where a Romanian company obtained a contract for an extremely expensive motorway ("Transalpina"), in

5. <http://www.consiliulconcurentei.ro/uploads/docs/items/bucket8/id8693/raport.pdf>

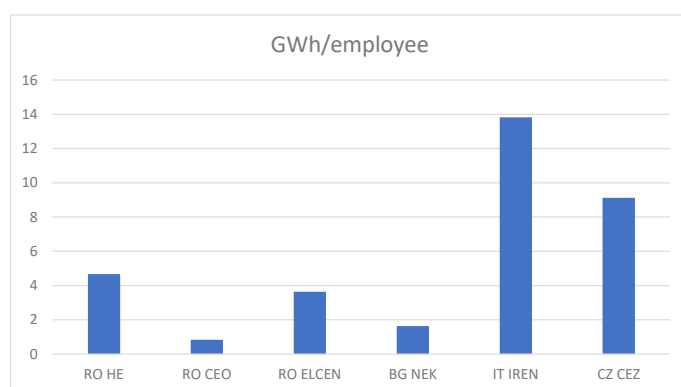
the mountains, with little traffic and high costs. To examine closer whether these claims hold water, we analyzed:

- Profitability of Romanian contractors (mostly contracted on national funds) to foreign contractors (generally in EU or IFI-funded projects with competitive tenders) and observed that Romanian companies had substantially higher profitability than foreign companies
- Profitability of the Romanian company involved in the contract compared to a very large foreign contractor (Romstrade vs Strabag), which indicates that Romstrade had particularly high profits during the construction of the Transalpina motorway, then went insolvent.

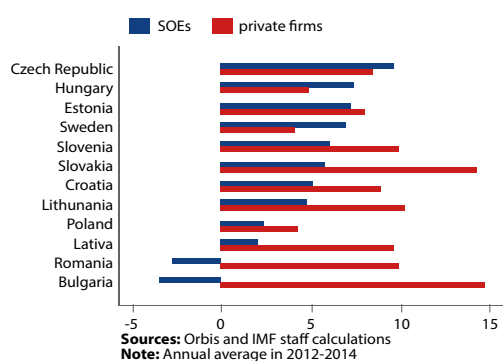


2. Energy: GWh/employee; profitability

The sample of companies from the 4 countries is not perfectly comparable, as some of them comprise generators of specific fuels (hydro, coal etc.), and others provide much more diversified services, such as electricity, gas and heat supply. To compare exactly the same figures, we used electricity generation vs employment for electricity generation, as some companies – NEK, CEZ, IREN are integrated companies / groups comprising many activities. The different business models and company structures is why we cannot benchmark profitability between SOEs directly. In our analysis, cogeneration is considered jointly (electricity + heat total production in GWh). For profitability, the approach used by the IMF is somewhat relevant in comparing the profitability of the whole sectors of energy (which includes also gas, but also transport and distribution, which are regulated natural monopolies and should not be aggregated as such with the competitive parts of generation and supply).



Return on capital employed (ROCE), energy sector
(Percent)

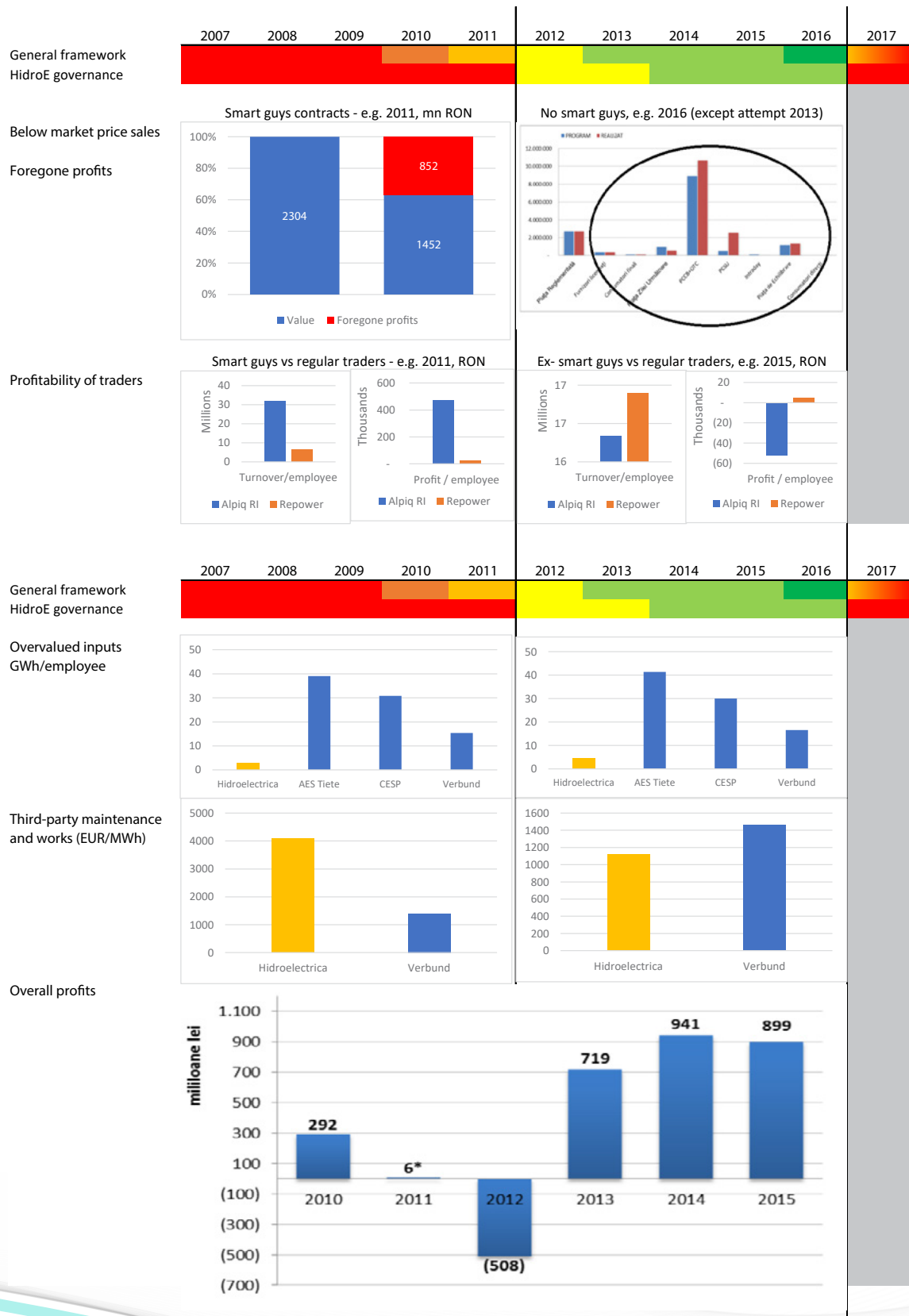


We note that the better governed a SOE, the better the performance. IREN and CEZ are stock-listed; NEK and CEO are notoriously inefficient. Hidroelectrica, a company with a long history of corruption, insolvency and partial reforms in recent years is a case detailed below.

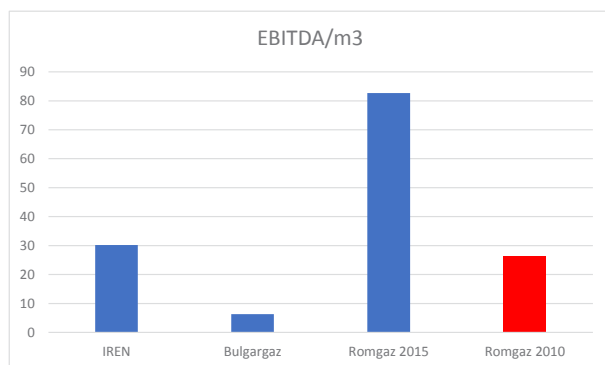
	RO	IT	BG	CZ
Electricity	HE, CEO, ELCEN	IREN	NEK	CEZ

Hidroelectrica has been involved in a notorious series of corruption cases in procurement (works) and undervalued sales of electricity to favored parties. Thus, starting in the early 2000s, Hidroelectrica sold large quantities of electricity (about 20% of Romania's total electricity production) at below market price – losses, or foregone profits from the deal are illustrated in the first graph. In 2012, in an effort to clean up the accounts of such contracts at pressures from IMF and EC, Hidroelectrica underwent an insolvency procedure. Several critical aspects of its performance improved radically, from overall profitability to output/employee (by reduction of redundant staff) and costs of procurement of third party maintenance works (which might however be a case of overshooting, if we compare to a similar company, Verbund). Interestingly, the so-called “smart guys” – traders which had sweet deals with Hidroelectrica for years, purchasing cheap energy and reselling it at market prices – now fare worse than the regular traders, see comparison between

Alpiq and Repower. Currently, Hidroelectrica sells only on the power exchange. It must be noted that Hidroelectrica's governance is a compound of the general corporate governance framework in Romania with its own insolvency procedure plus reforms of the electricity market in recent years (liberalization, strengthening of the regulator in 2012-2016); however, 2017 sees a reversal of these reforms, which could lead to worse performance in future years.



Similar calculations could be done for gas production and supply, though there are relevant differences between the companies in the sample which must be taken into account during the assessment (Romgaz is a producer as well as supplier, Bulgargaz is an importer of gas, IREN is a multiple utility provider of imported gas, electricity, heating and water). The benchmarking indicator we use is EBITDA from gas business / m3 of gas supplied.



Source: annual reports, own calculations

	RO	IT	BG
Gas	Romgaz	IREN	Bulgargaz

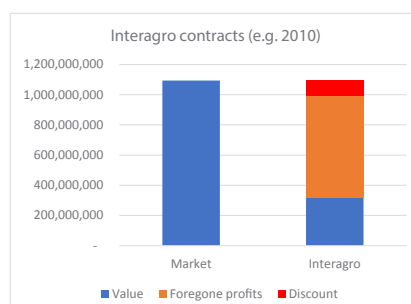
With the exception of Romgaz, which is a special case to be examined further, profitability per m3 of gas follows the scores of governance for the SOEs. As in the case of electricity, we can also monitor the same indicator for one company across time to observe changes and correlation with corporate governance scores. In 2010, Romgaz had much lower profitability per m3, because of a very low regulated price for gas produced in Romania, as explained below. It must be noted also that Romgaz is underinvesting and distributing virtually all its profits as dividends, mainly to the budget, as explained in the Romanian national report.

To illustrate the difference between 2010 and 2015, we show the evolution of Romgaz' business in 2007-2017. Indeed, the increase in the company's overall profitability follows reforms in the general corporate governance framework; reforms in the energy sector; two large corruption files in courts on the gas sector; and changes in practices of Romgaz. Thus, before 2011, the gas market regulation in Romania forced the two producers (state-owned Romgaz and private Petrom) to extract certain quantities of gas and sell them at low regulated prices. In short, virtually all gas consumers, including the large industrial plants, could get gas at a weighted average price between imported gas and domestic production; to keep the prices low, Romania's Government regulated domestic gas prices and quantities in the mix. The regulation favored mostly one large gas consumer, Interagro, a fertilizer producer and gas supplier, which represented cca. 20% of the total gas consumption in Romania (roughly equal to the total household consumption). In addition, Interagro benefitted discounts from the state-owned Romgaz. That the gas price regulation was mostly in the benefit of Interagro could be seen from the fact that a proposal, promoted by IMF and supported by the private gas producer to liberalize the market and capture the additional revenue of gas producers as "windfall" taxes to the budget was long pushed against (though implemented after 2012); the windfall tax would have been more than sufficient to support low gas bills for households alone, if social

concerns were the real cause of delay of liberalization. After 2011, following pressures from the IMF and EC, the gas and electricity markets were gradually liberalized; Romgaz management was selected competitively; Romgaz was listed on the Romanian stock exchange and in London; and the profitability of the company improved significantly. Also, because of the corruption cases in Court, Romgaz and the Ministry of Energy avoided strictly any kind of “special deal” with traders or consumers after 2013, for fear of a new criminal investigation. One remaining problem is the lack of investments, as the Government has constantly required SOEs since 2012 to transfer at least 50 or 90% of their profits to the budget and pressured most profitable SOEs, particularly in energy, to focus on short term profitability at the expense of long term development. Romgaz indeed has very high profits on existing deposits; however, its production decreases also because of very low investments in the depleted old deposits. Because of a twisted clause in the “windfall tax”, to avoid being suspected of tax evasion by the Court of Accounts, Romgaz now actually sells gas at prices above the market, thereby losing additional market share.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
General CG framework											
Romgaz governance											
Domestic price/1000mc	432	454	426	420	464	477	548	688			
Import price/1000mc	744	1079	964	1094	1324	1729	1504	1436			
Difference	313	625	537	674	860						
Estimated benefit Interagro MRON	313	625	537	674	860						
Average discount	47	93	80	101	128						
TOTAL mil RON estimated	359	718	617	775	989						

Foregone profits 2010

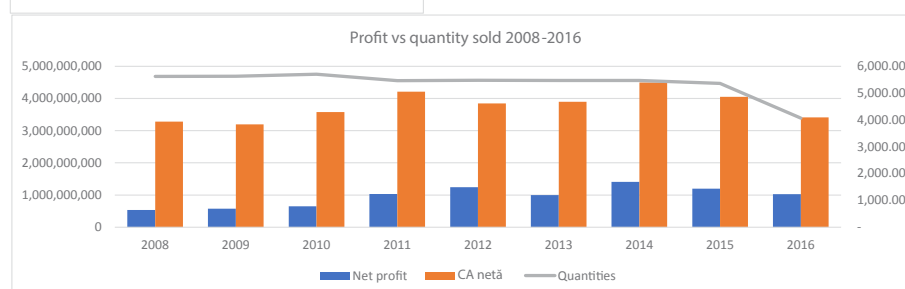


Interagro benefited regulations which affected the whole market.

Since 2012, the market liberalized gradually and Interagro benefitted less from preferential contracts, because of the energy law, criminal files in court and fears of a new corruption file. Regulated prices after 2012 were mostly in the benefit of households.

From 2011-2012, the company's performance improved following the cancellation of cheap gas laws 2009-2010 and liberalization. 2015-2016 profitability decreased because of reduced demand and quantities sold

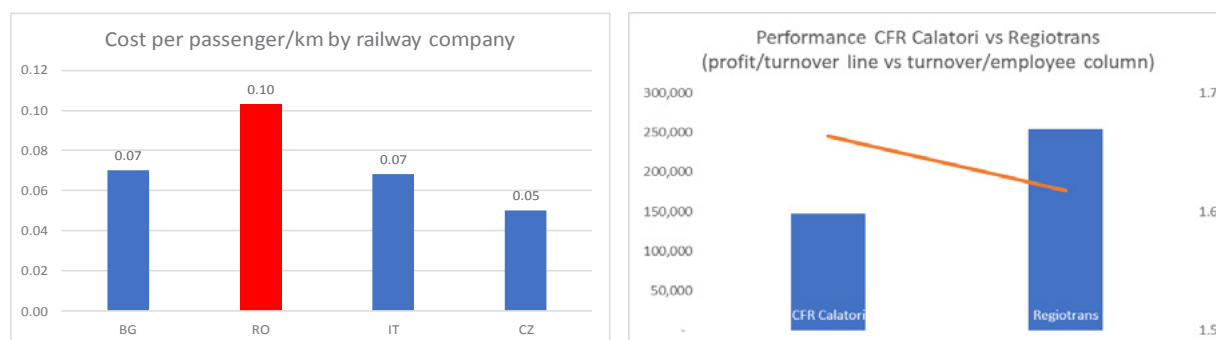
General profitability



3. Passenger/km costs by railways

Similar benchmarks can be applied to the railway passenger transport. For the SOEs involved, we separated the operation of passenger transport where the company is vertically integrated (Cz, It) and compared total operational cost per passenger-km across the SOEs. Again, we note that performance measured as total operational cost per each passenger/km is higher the worse the corporate governance of the SOE. The analysis could be detailed by company to examine further the causes for variance of performance (e.g., in Romania's case the higher costs per output could be explained by overstated

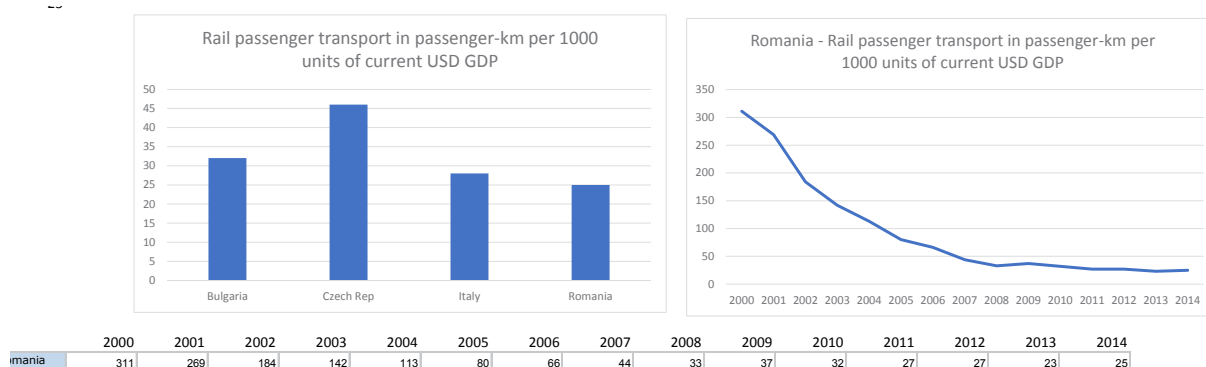
procurement issues as well as by the rapid decrease in passenger traffic).



Source: annual financial statements and reports of the SOEs, own calculations.

	RO	IT	BG	CZ
Railways	CFR Calatori	Trenitalia	BDZ(passanger)	CD (passenger)

The case of railway passenger services is actually quite interesting as a sector where SGEI are performed both by SOEs and private companies on the same footing (they receive similar state aid). This provides two additional research possibilities. First, one may benchmark the SOE with private companies providing the same service. Second, one can measure the performance of the government to provide the SGEI to its citizens, regardless of the ownership of the provider (SOE or private company). We took the first example of benchmarking for Romania, comparing two profitability indicators – profit/turnover and turnover (output) / employee with one private competitor which operates under the same state aid conditions (it receives the same subsidy/train-km as the SOE CFR Calatori). CFR Calatori and Regiotrans are roughly at the same level of profit/turnover (1.7 vs 1.6%), however, there is a clear indication of overstaffing in the case of the SOE, the staff productivity in the private company being almost double the value for the SOE. For the second performance measurement (that of the government delivery of transport services for railway passengers, regardless of whether under private or public companies), one can compare / benchmark indicators such as rail passenger transport in passenger-km per 1000 units of current USD GDP. This is an indicator of the “value” of passenger rail service for the country’s economy. This is another indicator that can be monitored also across time: the case of Romania is of particular relevance, as it highlights the continuous deterioration of the public service of rail transport for passengers, despite the emergence of small private companies which perform mostly local and regional rail transport. Additional analysis on the causes of modal share loss of rail for passenger traffic could be undertaken (e.g., by monitoring quality indicators such as traffic speed – however, we have not considered this indicator because it cannot disentangle issues with the management of rail passenger companies from problems in other parts of the railways sector, e.g. in infrastructure management).

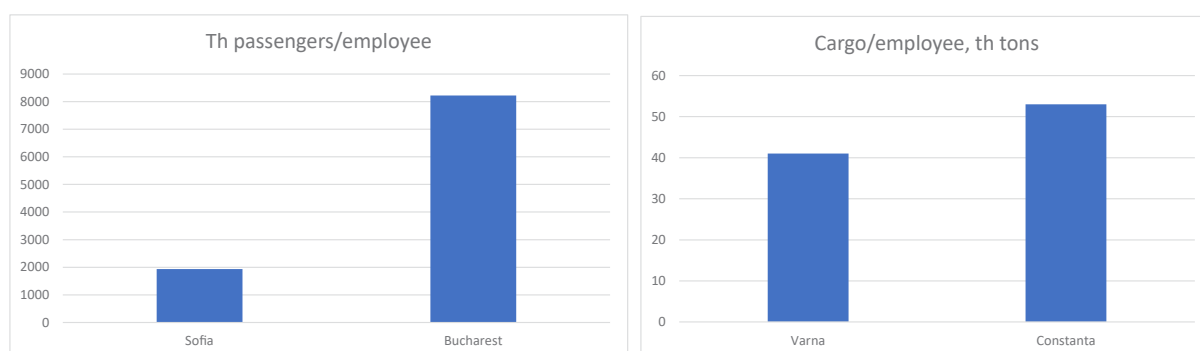


Source: OECD (2015 except Romania where data is for 2014).

4. Traffic/employee: benchmarking ports and airports

Ports and airports fall between public agencies and commercial companies, as they operate natural monopolies and are subject to various regulations, though otherwise their activity is profit-oriented. A simple indicator to monitor the performance of ports and airports concerns traffic of passengers or cargo per employee, which measures the efficiency of operation and can easily be compared to similar ports and airports. This is also a more reliable indicator than profitability ratios, as ports and airports might be required to undertake very costly investments not directly conducive to long term profits, such as safety measures. Our analysis is very limited, as we had ports and airports only for two countries in the sample.

	RO	BG
Ports	Constanta	Varna
Airports	OTP	Sofia AP

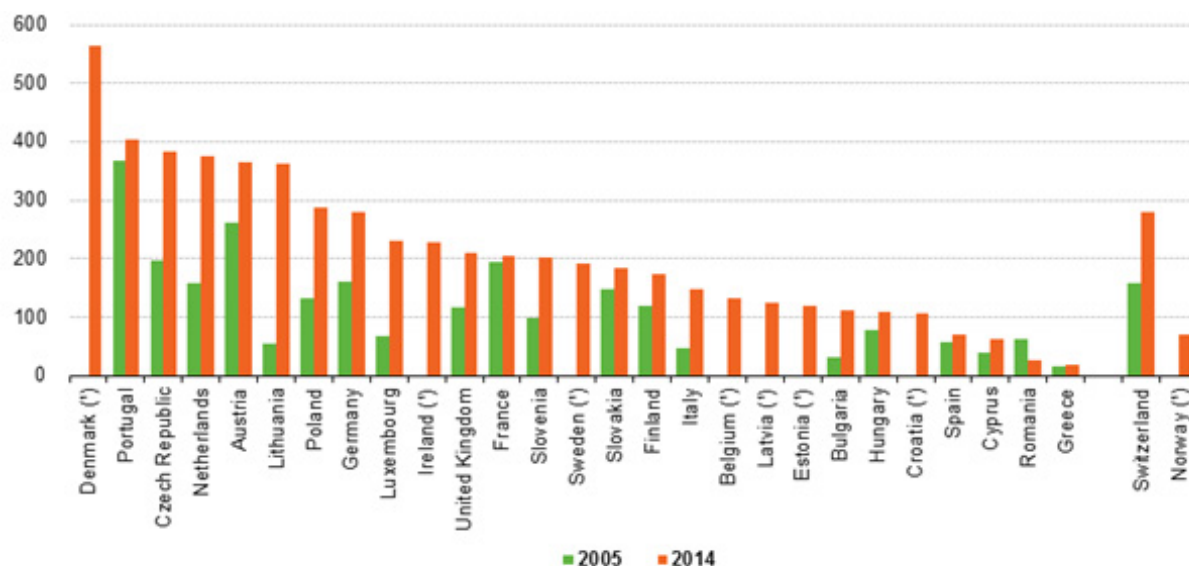


Source: annual reports of SOEs, own calculations

5. Forestry

As explained above, SOEs in forestry have very different coverage of areas of forest managed directly, types of activities and objectives of each forestry SOE, policies of countries in regards to forest conservation and management differ substantially, while efficiency of management, measured for example in annual work units, is very different depending on topographic conditions, closeness to water etc. In addition, official statistics concerning total forest areas might be misleading (e.g., in cases where illegal logging is a pervasive problem highlighted by environmental NGOs, such as

Romania⁶). One interesting indicator which monitors the SGEI component of the forest management regulation and covers both SOEs and private companies, capturing economic efficiency as well, is Eurostat's Forestry and logging value added per forest area available for wood supply (2005 vs 2014). In this benchmarking, Romania is the only country where the indicator has actually decreased in the past decade. Forestry and logging value added per forest area available for wood supply (2005 vs 2014)

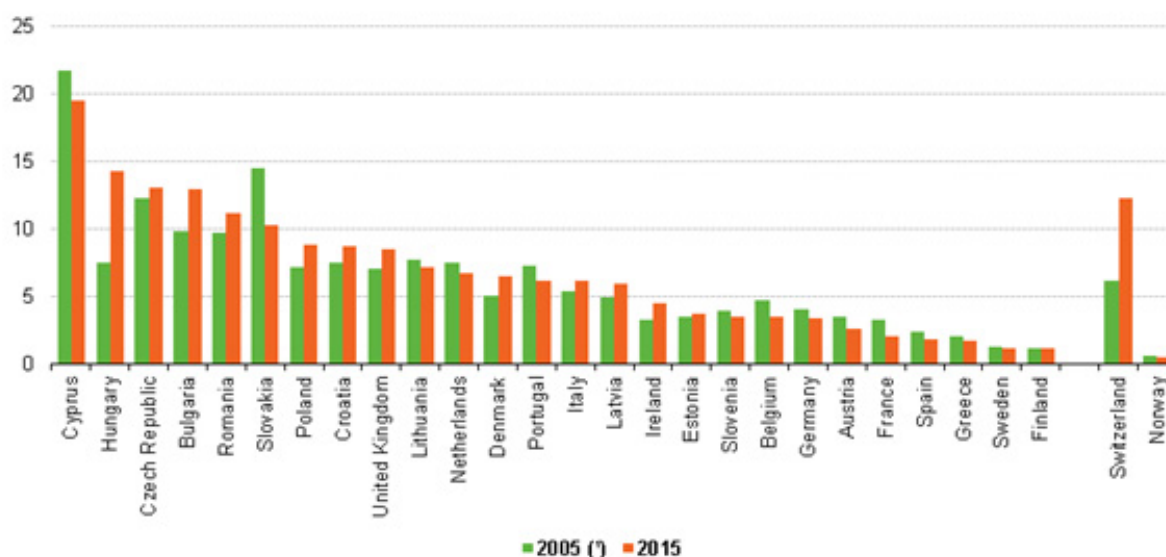


Note: ranked on 2014. Malta: not applicable. Forest area: 2015 data used for the calculation.

(*) 2005: not available.

Source: Eurostat (online data codes: for_eco_cp and for_area)

Employment per area of forest available for wood supply, 2005 vs 2015

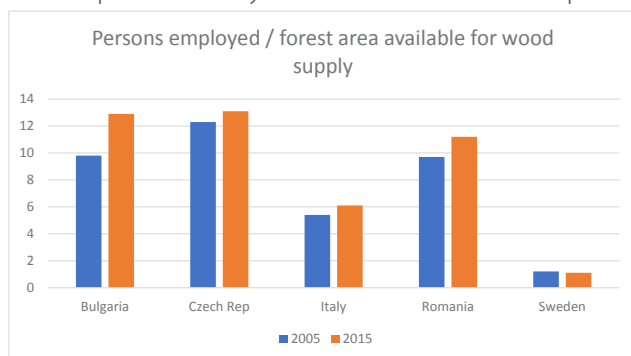


Note: ranked on 2015. EU Member States that are not shown are not available or not applicable.

(*) 2008 LFS employment data used for the calculation

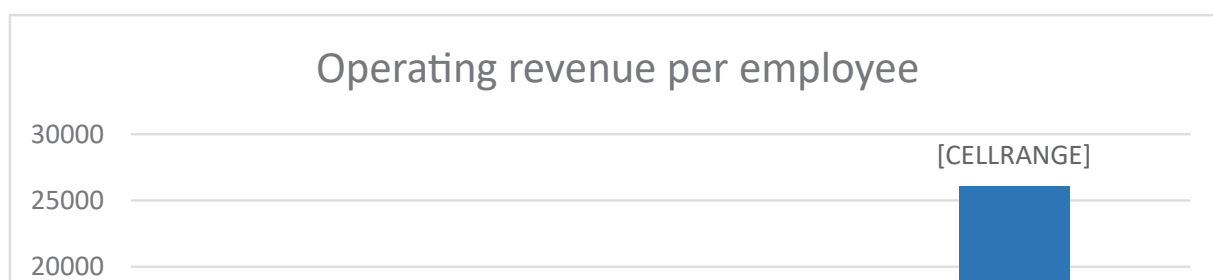
6. Greenpeace publishes an annual report on illegal logging in Romania, for 2016 in Romanian: <http://www.greenpeace.org/romania/Global/romania/paduri/raport-taieri-ilegale-2016.pdf>

Labor productivity: countries in the sample vs best-performing EU country – Sweden



6. Postal services

We operated a gross simplification and assumed that, for all practical purposes, all postal SOEs in the countries analyzed perform similar activities including similar SGEI, such as universal service obligation. This means profitability rates could be benchmarked across similar postal SOEs, though not with private sector companies (nor private postal services). We calculated operating revenue per employee as a measure of efficiency. As expected, the benchmarked performance matches the governance scores: the better governed the SOE, the better the labor productivity. The profitability rates illustrate the same point. However, as explained above, it is to be expected that state owned postal companies have lower profitability rates than the private sector average, considering that they provide also public service obligations / SGEI (in this case, universal service). The analysis can go in depth separating the types of activities of the SOE, as most SOEs in this sector account separately for the universal service, for which they receive compensation from the public budget. Ideally, one could deduct both the costs of providing universal service from operational costs and the compensation for universal service from the budget from the revenue and calculate profitability for the remaining commercial part, which can then be easily benchmarked with general private sector profitability⁷.



Source: Annual reports of Post SOEs, own calculations

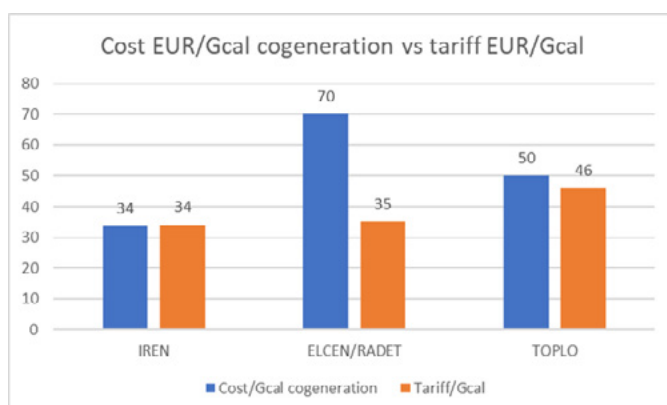
	RO	BG	CZ
Post	Posta Romana	BG Post	Ceska Posta

7. While in theory possible and compatible with the principles of state aid, this is more difficult in practice, at least for now. Depending on the degree of liberalization and "commercialization" of the sector, the compensation to be expected from the state budget in different countries is more, or less, certain and adequate. In countries that are reforming the sector, there is also an issue of the moment when the compensation is calculated and actually transferred – the SOE management will have to estimate in advance the amount of compensation to be received, particularly if the transfer from the budget is delayed; if the delay exceeds a year, one will also have to create provisions in the accounting, which will also show up in the expenditure.

7. Local services: urban transport, water and sewage, district heating

Most local utilities fall in between regulated or subsidized service with a strong SGEI component and commercial services for which consumers pay a large share of the cost. The simplest benchmarking indicator is cost/output (passenger-km for public transport, m³ for water and sewage etc.); however, large variations could be explained by specific conditions (types of services delivered, coverage, primary sources of water etc.). We could not benchmark transport companies as they were too different in operation (Romania's RADET operates only surface transport, but not metro; Bulgaria's Metropoliten manages light rail; Metro Milanese has only a very small component of metro management, while focusing recently in water management and housing; Czech's DPP operates all public transport around Prague⁸). In fact, most local utilities could be only benchmarked to themselves across time, while benchmarking across municipalities is relevant in limited cases⁹.

District heating is however a more particular case, as heat is produced in technologies that are more easily comparable than water or local transport. Benchmarking must take into account however the fuel source (gas, coal, renewables etc. should be benchmarked separately) and also whether heat is produced alone or in cogeneration with electricity. Having all these limitations in mind, we compare the cost/GCal vs actual tariff/GCal for the SOEs in the sample.



Source: annual reports, own calculations

	RO	IT	BG
DH	RADET	IREN	TOPLO

As expected, costs and tariffs match the governance scores of the SOEs: the better the SOE is governed, the lower the cost and the gap between cost and actual tariff paid by the consumer. We examined in-depth the DH system in Bucharest and compared its evolution in time in terms of governance with the actual performance. Since 2006, the municipality of Bucharest has kept the end-user tariff at "affordable" levels, lower than the costs recognized by the utilities regulator. As the town hall has not filled the gap with a subsidy, this has led to arrears that have increased yearly, reaching today almost

8. DPP's annual report is worth mentioning as a good practice for local utilities. It contains all the relevant financial data and a series of performance indicators monitoring both economic performance and quality of service, focusing on consumer needs.

9. See for example the reference textbook by David Ammons: *Municipal Benchmarks: Assessing Local Performance and Establishing Community Standards*, Third Edition, Routledge, 2015

900 million EUR, close to the entire budget of Bucharest municipality. This situation is not sustainable. In fact, while other cities in Romania practice similar tariff discounts: however, Bucharest is rather unique by the fact that the town hall does not pay the due subsidy, which has led to RADET and ELCEN's insolvency.



Conclusions:

- There are very few truly "benchmarkable" indicators, as companies and sectors are very different. However, one can propose comparable indicators for companies on similar positions on the SGEI/commercial continuum.
- The cca 10 key indicators are a minimal set to allow EU comparisons. However, these general indicators will easily highlight deeper issues, and research can be refined to explain variations (picking from the detailed list of initial indicators or going into "case studies").
- Data transparency is critical. The main constraint for the research was the limited availability of comparable, reliable data, apart from the inherent problems of company/sector differences. We recommend to Brussels to request that a

standardized set of financial, output and input indicators must be reported by all member states (we prepared a list)

- EU needs to push for full implementation of state aid across member states, including proper SGEI definition in national legislation and appropriate financing from budgets on these SGEI, which is actually fully consistent with EU's state aid rules today.
- To be noted that bad governance and bad performance do not necessarily mean corruption – prosecutable in courts. There are other causes, from incompetence, poor capacity, clientelism etc. but acting on governance and performance limits the opportunities for corruption.