The Use of Intermediate Management Balances as a Performance Management Tool in Electricity Companies

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Abstract
Starting from the assumption that the company is a place where material chances take place, and inputs thus become outputs, in the countries that use the continental accounting system, comparisons in time and space concerning the company results are made based on intermediate balances of administration. The analysis of the company performance based on intermediate balances of administration makes it possible to highlight the manner in which value is created and transferred within the company. This paper presents an analysis of expenses and incomes' concentration based on Gini Struck coefficient. The results of this analysis represent the basis for a number of strategic managerial decisions. The article aims at presenting the relevance of intermediate balances of administration for the decision-making process within electricity companies.
Key words: *intermediate management balances, added value, performance, energy, Gini Struck coefficient.*
JEL classification: *M40, M41, C40*

Introduction
Starting from the assumption that the company is a good place where goods are turned into other goods, and thus inputs become outputs, in the countries that use the continental accounting system, the comparisons in time and space concerning the company results are based on intermediate management balances. The accounting indicators that are usually used reflect the profit or loss of the accounting period in real terms, and have two main shortcomings, as deemed by I. Vasile (2005, p.84):
- the indicators are determined starting from the assessments of the incomes and expenses of the entity based on evaluations that can sometimes be questionable;
- given that the currency influence of the operations is neglected, determining the incidence of the results on the self-financing capacity and on the cash of the entity in the traditional accounting assessment is not allowed.

The Romanian accounting system does not provide the obligation of the entities to prepare this statement, but the latter is useful for analysis, because it contains certain specific indicators that are not directly found in the profit and loss account, the balance sheet or the annexes to the balance sheet, such as the margin, the output of the accounting period, the value added, the gross operating surplus.

In order to enrich the information content, the intermediate management balances divide the net result in partial results that allow a better analysis of the company performance on several levels.

Basically, the intermediate management balances (IMB) are indicators determined in cascade (Iacob C., 1996) in the form of money accumulation margins, designed to perform a specific function the remuneration of the factors of production and of financing of future activity, which highlights the stages of the formation of the net result of the accounting period in close connection with the structure of the incomes and expenses of the company activity.

Achieving this objective requires, according to the author G.Vintilă (2002, pp.31-32), a pre-treatment of the profit and loss account to reveal in order to highlight the manner of operation and the profitability of the company, as commercial margin, output of the accounting period, value added, gross operating surplus, operating result, current result and net result of the accounting period.

In the final part of the paper, in order to improve and optimise the contents and the results, the authors use an analysis of expenses and incomes' concentration based on Gini Struck coefficient.

1. The importance of intermediate management balances

The balances in "cascade" allow for highlighting the connection between the operational function and the financial one of the company and can be divided in two categories: IMB – activity and IMB – profitability.

In the lower part of the intermediary management balances table two residual cash balances are determined (the self-financing capacity and the self-financing), indicators of interest in the financial analysis due to their significance and usefulness in assessing the financial performance and in the calculation of significant financial ratios.

In relation to the method of calculating the indicators included in this table we are mentioning that there are two trends of opinion: the French school specific trend, and the American school one, respectively. What distinguishes these two trends is the determination of the indicators.

Thus, a brief presentation by comparison of the two trends leads us to highlight accumulation margins calculated based on the functional classification of the elements within the profit and loss account (according to the International Financial Reporting Standards), respectively of the intermediate management balances (according to the French opinion).

Table 1 presents these accumulation margins according to the French point of view.

Table no. 1: Table of the intermediate management balances

Incomes	Expenses	IMB
(1)	**(2)**	**(1-2)**
Goods sales	Cost of sold goods	**Commercial margin (Mc)**
Sold production + Stored production + Fixed-assets production		**Production of the accounting period (Qex)**
Qex + Commercial margin	Consumptions from third parties	**Value added (VA)**
VA + Operating subsidies	Other taxes and duties (without profit tax and VAT) Staff expenses	**Gross operating surplus (EBE)**
EBE + Incomes from operating provisions + Other operating incomes	Depreciation and operating provisions Other operating provisions	**Operating result (Rexp)**
Rexp + Financial incomes	Financial expenses	**Current result (Rcrt)**
Extraordinary income	Extraordinary expenses	**Extraordinary result (Rex)**
Total result (Rt) = Rcrt + Rexp	Profit tax	**Net result of the accounting period after tax (net profit or loss)**

Source: A. Işfănescu, V. Robu – Analiza economico-financiară, ASE Publishing House, Bucharest, 2002, page 138

On the other hand, according to the IFRS point of view, accumulation margins per se are as in Table 2.

Table no. 2: Accumulation margins according to IFRS

Incomes	Expenses	IMB
(1)	**(2)**	**(1-2)**
Operating incomes		**Operating incomes**
Operating incomes	Variable expenses	**Variable cost margin/contribution margin (MCV)**
MCV	Fixed expenses (excluding depreciation)	**Profit before interest, tax and depreciation (EBITDA)**
EBITDA + Write-back of provisions	Depreciation and provision expenses	**Operating result (RE)**
RE + Financial incomes	Financial expenses	**Result before tax (EBT)**
EBT + Extraordinary incomes	Extraordinary expenses + Profit tax	**Net result (Rn)**
RE + Financial incomes + Extraordinary incomes	Financial expenses (excluding interest) + Financial expenses	**Result before interest and tax (EBIT)**
Rn + Interest $(1-\tau)$		**EBIT $(1-\tau)$**
Rn + Interest		**EBIT – Profit tax**

Source: I.Stancu – Finanțe, fourth edition, Economic Publishing House, Bucharest, 2007, page 725

2. Calculation of intermediate management balances

The commercial margin is also referred to as trade mark-up and is specific to commercial entities, but also to those with a mixed industrial and commercial activity, representing the surplus recorded from good sales compared to the respective goods costs.

Commercial margin (Mc) = Goods sales (Vm) – Costs of sold goods (Cmv)

Commercial performance can be assessed with the help of this indicator. The evolution of the commercial margin of CNTEE Transelectrica SA in the period 2007-2011 is presented in Table 3.

Table no. 3: Evolution of the commercial margin

-RON-

No.	Period	2007	2008	2009	2010	2011
1.	Goods sales	1,998,336	2,046,175	2,080,226	850,845	4,183,103
2.	Cost of sold goods	3,276,911	1,458,844	1,726,068	910,838	3,451,806
3.	**Mc (1-2)**	**-1,278,575**	**587,331**	**354,158**	**-59,993**	**731,297**

Source: Authors' data taken from the financial statements of CNTEE Transelectrica SA for 2007-2011

Chart The evolution of the commercial margin at the analyzed company is presented in Figure 1.

Figure no. 1: Evolution of the commercial margin in the period 2007-2011

Source: Authors' data taken from the financial statements of CNTEE Transelectrica SA for 2007-2011

The output of the accounting period reflects the total volume of the production activity of an entity in a certain period of time (month, quarter, semester or year).

The output of the accounting period (Qex) includes the following components:

- value of the sold production (Qv), expressed in selling prices without VAT;

- fluctuation of the stored production (Δ Qs), i.e. that stocks of finished products, semi-finished and unfinished products and unfinished production at the end of the year, assessed in production costs;

- value of the capitalized production (Qi), i.e. Self-made tangible and intangible assets but also the internal consumption of semi-finished and finished products in the own production, assessed in production costs.

Taking these specifications into account, the calculation model or formula of the output of the accounting period is as follows:

$$\textbf{Qex = Qv} \pm \Delta \textbf{Qs + Qi.}$$

We support the opinion that, within the analysis, special attention should be paid to the changes occurred in the increase or decrease of finished products, semi-finished products or unfinished production stocks, which is reflected into the quality of the activity and of the production obtained, but also in the compliance with the contracts concluded with various beneficiaries.

The production of the accounting period has a number of shortcomings, including elements with heterogeneous content that are evaluated both at their selling price and in the production costs, which does not allow for the correct delimitation of the ratio between living and materialized labor or for the accurate assessment of the own effort in the completion of the production schedule and in assessing economic and financial performance of the company.

Finally it is very important to assess the share of each of the components within the production of the accounting period. The evolution of the production of the accounting period at SNTEE Transelectrica SA in the 2007-2011 period is presented in Table 4.

Table no. 4: Evolution of the production of the accounting period

-RON-

No.	Period	2007	2008	2009	2010	2011
1.	Qv	2,288,988,875	2,922,462,045	2,483,047,147	2,544,873,785	3,108,959,675
2.	Qce_1	0	0	0	0	0
3.	Qce_0	0	0	0	0	0
4.	$PfMf_1$	253,057	0	0	13,287,445	0
5.	$PfMf_1$	0	0	0	7,905,892	0
6.	Qs (2-3+4-5)	253,057	0	0	5,381,553	0
7.	Qi	3,276,911	1,458,844	1,726,068	910,838	3,451,806
8.	**Qex (1+6+7)**	**2,285,458,907**	**2,921,003,201**	**2,481,321,079**	**2,549,344,500**	3,112,411,481

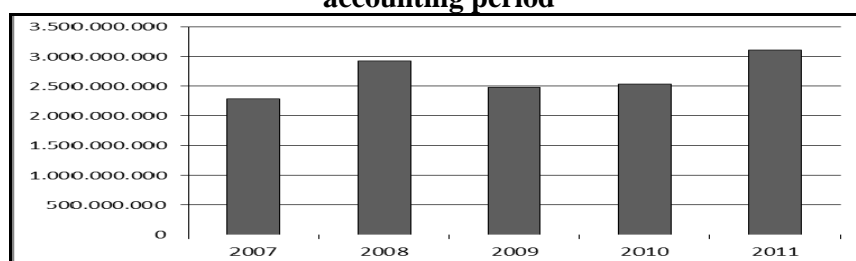Source: Authors' data taken from the financial statements of CNTEE Transelectrica SA for 2007-2011

where: Qce – work in progress , PfMf – finished products and goods

The evolution of the production of the accounting period at the analysed company is presented in the chart in Figure 2.

The value added is a synthetic indicator that shows the surplus value or the value newly created by the production activity of the entity in a certain period of time.

The use of the indicator in the system of indicators of the production and marketing activity allows for the more accurate assessment of the wealth created by the capitalization of the resources of the entity. Thus, the likelihood of artificially increasing the workload by the repeated circulation of a product between entities for processing is eliminated. It also expresses in a better manner the own effort of each entity in the creation of the gross domestic product, it allows for a more accurate assessment of the economic efficiency, it stimulates the reduction of the material expenses, the more effective use of the means of production and of the labour.

Figure no. 2: Evolution of the value of the production of the accounting period

Source: Authors' data taken from the financial statements of CNTEE Transelectrica SA for 2007-2011

The level of this indicator for the period 2007-2011 at the analysed company is presented in Table 5.

**Table no. 5: Evolution of the value added**

-RON-

No.	Period	2007	2008	2009	2010	2011
1.	Qex	2,285,458,907	2,921,003,201	2,481,321,079	2,549,344,500	3,112,411,481
2.	Costs of raw materials and consumables	6,631,646	7,445,473	6,258,696	6271,404	6,494,934
3.	Other material expenses	1,613,124,016	2,056,647,954	1,756,249,489	1,785,823,048	2,164,496,180
4.	Other external expenses (with energy and water)	13,563,208	14,867,606	15,877,153	15,658,948	17,853,931
5.	Costs of external services	227,867,069	258,933,133	222,585,481	206,752,290	268,668,767
6.	Cm (2+3+4+5)	1,861,185,939	2,337,894,166	2,000,970,819	2,014,505,690	2,457,513,812
7.	VA (1-6)	424,272,968	583,109,035	480,350,260	534,838,810	654,897,669

Source: Authors' data taken from the financial statements of CNTEE Transelectrica SA for 2007-2011

This evolution is presented in figure no. 3.

Figure no. 3: Evolution of the value added in the period 2007-2011
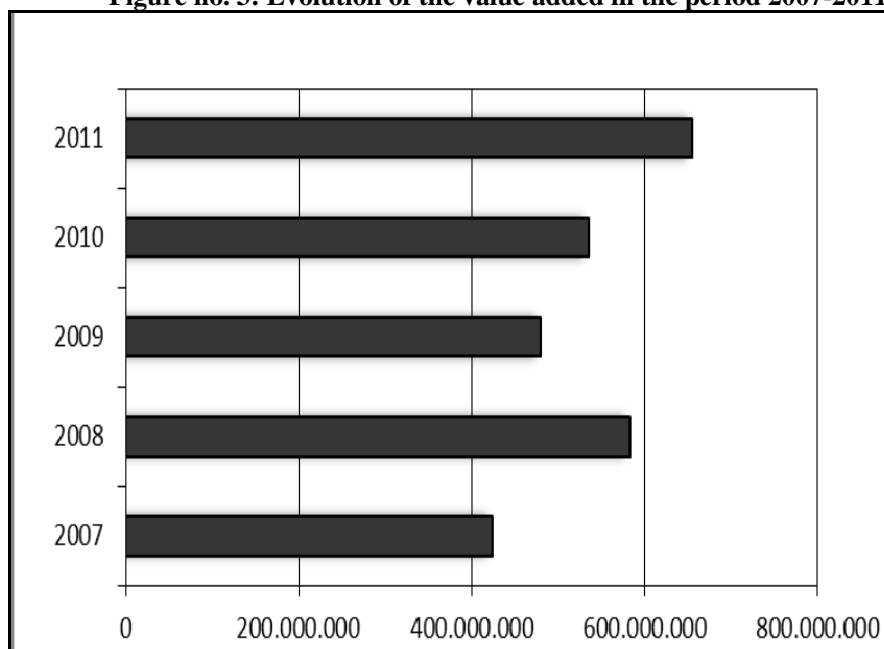
Source: Authors' data taken from the financial statements of CNTEE Transelectrica SA for 2007-2011

The gross operating surplus (EBE) shows the gross economic result obtained from the operating activity of the entity (Radu et al, 2004, p. 236). It is an intermediate management balance connecting the management indicators and the traditional profitability indicators. Its level can be determined by two methods: the subtractive method and the additive method.

The subtractive method is the method highlighted in TSIG i.e. by deducting the remuneration of the state and of the staff from the amount of the value added and of the operating subsidies:

EBE = (VA + Operating subsidies) – (Other taxes and duties + Staff costs)

The additive method starts from EBE to which a number of elements is added, as follows:

EBE = Operating result + Costs of depreciation and operating provisions + Other operating expenses – Incomes from operating provisions– Other operating incomes

There is also the version of determining EBE by comparing the operating incomes involving immediate or term revenues (Ve*), with the operating expenses that generate immediate payments or payments on due date (Ce*):

$$EBE = Ve^* - Ce^*$$

In such circumstances, EBE may be characterised as a money surplus potentially arising from the current business of the entity, being actually a difference between the potential money income and the money costs likely to be incurred.

On the other hand it is an indicator expressing the profitability of the core business of the entity, because it is the carrier of the funds allowing for the provision of the reproduction of the means and the depreciation of those that contributed with capital to financing the business of the entity.

In conclusion, it is a potential money indicator due to the existence of the gaps between the payments and revenues from the use of the stable liabilities (suppliers, employees, government budget) and respectively, from the commercial loans granted to customers, and can be accurately ascertained only at the end of the period: it is generated throughout the whole accounting period, but it is affected, at the same time, by the uses outside the operation (financing investments, reimbursing financial debts). Thus, even in the absence of the gaps between payments and revenues, its increase cannot be clearly identified on the increase of the availability balance. In this case a number of rates can also be determined depending on the components (Stark and Pântea, 2001, p. 110).

Table no. 6. Evolution of EBE

-RON-

No.	Period	2007	2008	2009	2010	2011
1.	Rexp	158,791,036	204,179,037	100,025,587	79,554,641	159,473,510
2.	Expenses (acc.6811+6813)	205,021,365	239,604,066	250,299,066	271,444,428	298,545,261
3.	Expenses (acc.654+6814)	212,143	905,001	5,437,526	51,837,223	13,709,587
4.	Expenses (acc.6812)	7,299,039	10,143,197	1,680,050	846,929	47,200,772
5.	Costs of depreciation and operating provisions (2+3+4)	212,532,547	250,652,264	257,416,642	324,128,580	359,455,620
6.	Other operating expenses	270,074,267	284,340,956	249,767,135	233,168,732	292,931,890
7.	Incomes (acc.7813)	0	0	0	0	4,168
8.	Incomes (acc.754+7814)	1,138,710	76,380	141,950	601,167	4,830,250
9.	Incomes (acc.7812)	37,831,415	3,798,656	10,939,471	4,522,655	37,111
10.	Income from operating provisions (7+8+9)	38,970,125	3,875,036	11,081,421	5,123,822	4,871,529
11.	Other operating incomes	57,804,569	30,807,076	32,607,561	37,207,774	38,650,972
12.	**EBE (1+5+6-10-11)**	**544,623,156**	**704,490,145**	**563,520,382**	**594,520,357**	**768,338,519**

Source: Authors' data taken from the financial statements of CNTEE Transelectrica SA for 2007-2011

The evolution of EBE can be presented as a chart as in Figure 4.

Figure no. 4: The Evolution of EBE
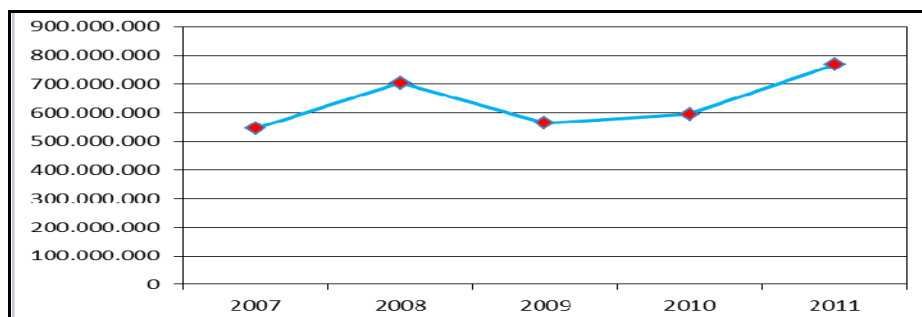
Source: Authors' data taken from the financial statements of CNTEE Transelectrica SA for
2007-2011

3. Using Gini-Struck coefficient for analysing concentration or diversification of incomes and costs

We consider useful the method of statistical analysis of concentration or diversification for expenses and incomes (Săvoiu et al, 2010). This method can also be used successfully used in the analysis of a market concentration or diversification and in the same time for analysing the concentration or diversification of exports and imports (Săvoiu et al, 2012). To demonstrate the methodology we will use data available for costs of depreciation and operating provisions and incomes from operating provisions, presented in table no. 6.

The values of Gini –Struck coefficient for costs and incomes are presented in table no. 7:

Table no. 7: The values of Gini –Struck coefficient for costs and incomes

No.	Period	g%					g_i^2				
		2007	2008	2009	2010	2011	2007	2008	2009	2010	2011
1.	Expenses (acc.6811+6813)	96,46	95,59	97,23	83,74	83,05	0,93056	0,91378	0,94546	0,70133	0,68981
2.	Expenses (acc.654+6814)	0,10	0,361	2,112	15,99	3,814	0,00000	0,00001	0,00044	0,02557	0,00145
3.	Expenses (acc.6812)	3,43	4,047	0,653	0,261	13,131	0,00117	0,00163	0,00004	0,00001	0,01724
4.	Costs of depreciation and operating provisions (1+2+3)	100	100	100	100	100	0,93174	0,91543	0,94595	0,72692	0,70850
5.	G-S coefficient	-	-	-	-	-	0,94742	0,934428	0,95860	0,76836	0,75017
6.	Incomes (acc.7813)	0,000	0,000	0,000	0,000	0,086	0,00000	0,00000	0,00000	0,00000	0,00000
7.	Incomes (acc.754+7814)	2,922	1,971	1,281	11,73	99,15	0,00085	0,00038	0,00016	0,01376	0,98312
8.	Incomes (acc.7812)	97,07	98,02	98,71	88,26	0,762	0,94241	0,96096	0,97454	0,77911	0,00005
9	Incomes form operating provisions (6+7+8)	100	100	100	100	100	0,943	0,96135	0,97470	0,79287	0,98318
10.	G-S coefficient	-	-	-	-	-	0,95650	0,97058	0,98084	0,83024	0,98730

Source: Authors'work

For the costs of depreciation and operating provisions in 2011, the Gini-Struck coefficient is calculated below:

$$G - S_{2011} = \sqrt{\frac{n\sum_{i=1}^{n} g_i^{\,2} - 1}{n-1}} = \sqrt{\frac{3x0,70850 - 1}{3-1}} = 0,75017$$

For the costs of depreciation and operating provisions, in the period 2007-2011, there was a decrease in the value of the Gini-Struck coefficient in the last two years, which proves a diversification trend.

The Gini-Struck coefficient for the incomes from operating provisions in 2011, is calculated below:

$$G - S_{2011} = \sqrt{\frac{n\sum_{i=1}^{n} g_i^{\,2} - 1}{n-1}} = \sqrt{\frac{3x0,98318 - 1}{3-1}} = 0,98730$$

We can notice a lower value of the G-S coefficient only in 2010. The high values of this coefficient in the other years are the proof of a high concentration of incomes from operating provisions.

The commercial margin has a fluctuating evolution. This evolution is normal because the business of the company is electric power transmission, not trading goods. The production of the accounting period is showing an uptrend in the last three years. This favorable evolution is due to the component representing the production sold which is also the decisive share in it.

The value added has a general growing trend at the analysed company. This favourable trend is duet to the two components: the production of the accounting period (Qex) and respectively the consumption of the intermediate materials coming from third parties (Cm). **In our opinion**, in the analysis of a company, special attention should be paid to the changes occurred in the increase or decrease of finished products, semi-finished products or unfinished production stocks, which are reflected into the quality of the activity and of the production obtained, but also in the compliance with the contracts concluded with various beneficiaries.

Cost reduction is a solution to maximize the value of the intermediate management balances. Brînză and Brînzea (2008) state that "The decisive role in minimizing costs is played by the increase of production factors efficiency used in terms of innovation and improvement of resources saving spirit". **In our opinion,** from all the indicators determined with the Table of intermediate management balances, the most representative is the **value added** that allows for the more accurate assessment of the wealth created by the capitalization of the human and financial resources of the entity. This indicator expresses in a better manner the contribution of each entity in the creation of the gross domestic product, it allows for a more accurate assessment of the economic efficiency, it stimulates the reduction of the material expenses, the more effective use of the means of production and of the human resources.

Besides the profitability, managers must also take into account the risks undertaken by the company. In this respect, Gâdoiu and Clipici (2010) highlight that "The evaluation of the company performance represents an approach that requires careful analysis at the dual profitability – risk level, because, although the shareholders and managers of the company are certainly interested in the profitability of the company, more attention must be paid to the risks to which the company is exposed".

4. Conclusions

The significance of the intermediate management balances is special and allows the assessment of three essential aspects:
- the business performance (using the indicators turnover, trading mark-up, production of the accounting period and the value added);
- the performance of the business entity by establishing a connection between the intermediate management balances and the profit and loss flow, starting from the value added, which can be found in the continuation of the "cascade" of the ,, intermediate management balances (gross operating surplus, operating results, financial results, current result, the extraordinary result, the gross result of year, the net result for the year);
- the financial performance with two residual cash balances (the self-financing capacity and the self-financing).

In today's world, characterized by high levels of competition in all economic fields, big part of the governments worldwide base their industrial strategies on criteria based on value added. The value added is not recorded in the profit and loss account but the latter (in the form used in our country) contains the items required to determine it. Fourth European Directive prescribes the data required to determine the value added, and the American Accounting Association in the USA recommended to companies to publish information about the value added.

The Gini-Struck coefficient can be used to track the evolution of incomes/costs and analysing their concentration or diversification.

The analysis of the company performance based on intermediate management balances allows for highlighting the manner in which value is created and transferred in the company and the results of this analysis are the basis for a number of strategic managerial decisions.

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