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PARTICULARS OF FINANCIAL ANALYSIS IN THE ASSESSMENT OF BEST OPERATING PRACTICES

Octav VOCHITA, doctoral student at TCUM, expert accountant,
The Body of Expert and Licensed Accountants of Romania (C.E.C.C.A.R.), Iasi, Romania
E-mail:octavvochita@yahoo.com

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Abstract

The assessment of operational activities of an enterprise may identify the best operational activity oriented toward the right or toward the regulated debt. Of particular interest for any decision maker mandated to manage financially an investment interest in the operational activities of an enterprise is and determine the best operational practice. In the first case the objective seeks a proportional reduction of all claims covered specific and in the second case a proportional increase in all specific rights covered. The setting of the best operational practice is geared towards a feasible opportunities to increase operational all rights covered along with a proportional reduction of all claims covered operational.

The method proposed by the author aims to establish the best operational practices using analytical technique of data envelopment. The data obtained can be used in subsequent analyses focused on operational risk assessment, the risk of financial position and financial performance or prospectively in establishing the best operational practices for the accounting period immediately after current reference.

Keywords*: business valuation, determining the best operational practice, data envelopment analysis, benchmarking.*

1. Introduction

The assessment requires availability of documentary material consisting of 12 balances for checking accounts, corresponding reference period retrospect and the equivalent size of a financial year. Operational area is considered retrospective reference in this respect, revealed in terms of timeliness economic realities encountered in the field of activity of the company.

2. The degree of investigation of the problem currently, and purpose of research

As with the first two alternatives, the research objective is to establish a way of optimizing the operational activity of an undertaking (1) to base on the simplest, most accessible and most complete form of documentary information, (2) make use of the wide accessibility computer applications, (3) to permit an assessment of risk in terms of control over the economic benefits available, (4) to permit an assessment of risk in terms of economic benefits disposal of investment in the best interest of contingency, (5) allow forecasting of best operational practices under two aspects above, (6) use the theoretical support of mathematical models and optimization (7) mathematical knowledge not require going beyond the common practice of accounting economist. Investigations carried out by the author did not identify a similar method applicable to accounting information in assessing the operational risk of the investment.

3. Methods and materials applied

The theoretical basis of the method is based on the theory of utility functions initiated by Von Neumann and Morgenstern, and the issue of allocation of portfolios, developed on the theoretical foundation elaborated by Markowitz.

The analytical method has reference capital asset pricing model (CAPM) developed by Treynor, Sharpe and Lintner and data envelopment analysis developed by Charnes, Cooper and Rhodes.

The author's own research is based on theoretical data envelopment analysis used in a tool spreadsheet programs like Microsoft Excel. Research author led to a broad accessibility analysis method but with possibilities of exploitation leading to a comprehensive assessment of the enterprise in terms of operational risk, financial position and financial performance risk.

4. Results and discussions

4.1. The method to identify the best operational activities

The valuation method oriented to minimize the transfer of economic benefits toward contingency investment interests have the aiming to reduce the proportion of all transactions effected on behalf of specific regulated claims, and the valuation method oriented to maximize operational control has as an objective a proportional increase for all transactions effected on behalf of specific rights covered.

The analysis focused on identifying the best operational practice aims to reduce the proportion of all transactions effected on behalf of specific regulated claims as well as a proportional increase in all transactions effected on behalf of specific rights covered.

In general terms, the analytical methods are similar to those applied in the analysis of the two methods mentioned above.

It's called indicator of operational efficiency, the ratio of the aggregate turnover debt and the aggregate value of turnover credit:

$$\mu_0 = \frac{\mathrm{rd}_0}{\mathrm{rc}_0} \left| \begin{array}{l} \mathrm{rd}_0 = \sum_{j=1}^{n} rd_0^j \\ \mathrm{rc}_0 = \sum_{i=1}^{m} rc_0^i \end{array} \right. \quad (1)$$

It's called fractional indicator of operational efficiency, the ratio of the highest indicator of operational efficiency and operational efficiency indicator specific reference:

$$\lambda_{\bar{k}} = \frac{\max \mu}{\mu_{\bar{k}}} \leq 1, \bar{k} \in [0, \bar{t}] \quad (2)$$

As feature, the calculation model is based on the slack values of specific credit turnovers as well as the specific turnover debt:

$$\max \sum_{i=1}^{m} \delta^{-}_{rc_0^i} + \sum_{j=1}^{n} \delta^{+}_{rd_0^j} \left| \begin{array}{l} \sum_{\bar{k}=1}^{\bar{t}} \lambda_{\bar{k}} \cdot rc_{\bar{k}}^{i} + \delta^{-}_{rc_0^i} = rc_0^i, i = 1,2,\dots,m \\ \sum_{\bar{k}=1}^{\bar{t}} \lambda_{\bar{k}} \cdot rd_{\bar{k}}^{j} - \delta^{+}_{rd_0^j} = rd_0^j, j = 1,2,\dots,n \\ \lambda_{\bar{k}}, \delta^{-}_{rc_0^i}, \delta^{+}_{rd_0^j} \geq 0, \bar{k} \in [0,\bar{t}] \end{array} \right. \quad (3)$$

Determining the best operational practices are the subject of linear programming problem

$$\max \sum_{i=1}^{m} w^{\delta^-}_{rc_0^i} \cdot \delta^{-}_{rc_0^i} + w^{\delta^+}_{rd_0^j} \cdot \sum_{j=1}^{n} \delta^{+}_{rd_0^j} \left| \begin{array}{l} \sum_{\bar{k}=1}^{\bar{t}} \lambda_{\bar{k}} \cdot rc_{\bar{k}}^{i} + \delta^{-}_{rc_0^i} = rc_0^i, i = 1,2,\dots,m \\ \sum_{\bar{k}=1}^{\bar{t}} \lambda_{\bar{k}} \cdot rd_{\bar{k}}^{j} - \delta^{+}_{rd_0^j} = rd_0^j, j = 1,2,\dots,n \\ \lambda_{\bar{k}}, \delta^{-}_{rc_0^i}, \delta^{+}_{rd_0^j} \geq 0, \bar{k} \in [0,\bar{t}] \end{array} \right. \quad (4)$$

where $w^{\delta^-}_{rc_0^i}$ and $w^{\delta^+}_{rd_0^j}$ are specific weights calculated over slack values of corresponding space.

4.2. The graphical presentation of analytical stages

The following charts presents analytic stages of identifying the best operational practices.

Figure 1 shows the corresponding retrospective analytic space with reference to the current operational practice which is highlighted separately.

In the first stage of the analytical process (Figure 2), all the operational practices of retrospective reporting period are made to the same initiating financial position (equivalence opening balance).

In the second stage of the analytical process (Figure 3), all operational practices are made from the same financial position are brought into the same position of operational efficiency.

In the third stage of the analytical process (Figure 4), all operational practices are brought into the position relative operational efficiency.

In the last stage of the analytical process (Figure 5), best operational practice is established by reference to the highest possible debiting specific analytic space, financed by the smallest feasible funding sources identified specific analytic space of regulated claims. Best operational practice corresponds to the most efficient operational practices identified in the analytic space relative.

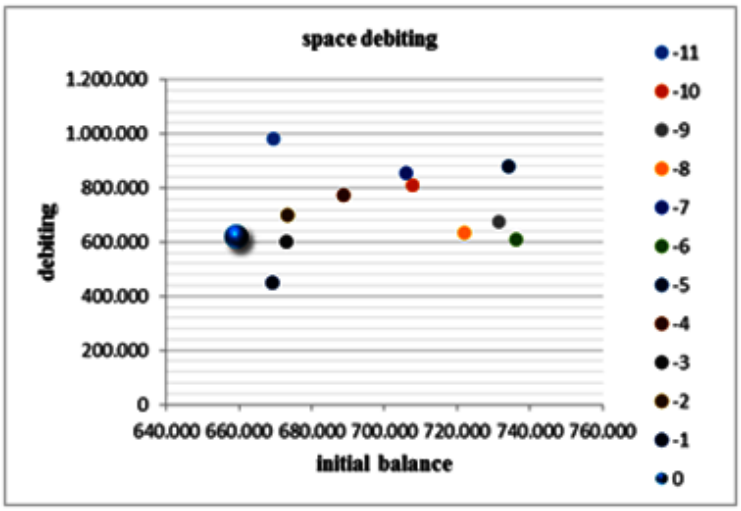
5. Conclusions

The best operational practices established by reference to the retrospective operational period is an intermediate result used in operational risk analysis and benchmarking of best operational practices based on alternative strategies.

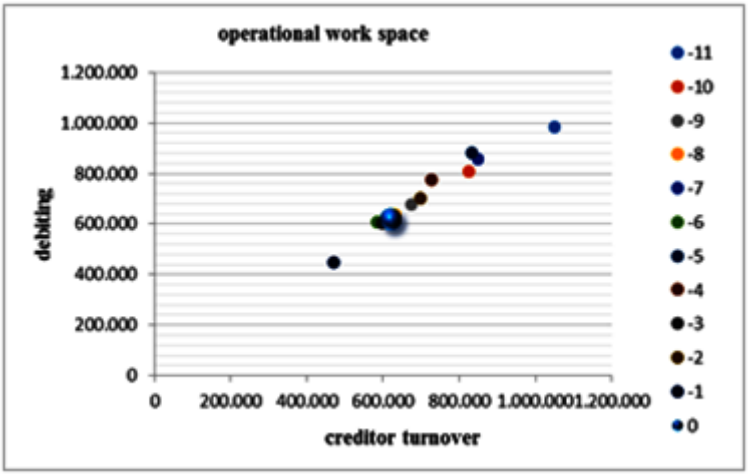
As in the best operational practice, is it is the calculating basis for a variety of indicators corresponding to elementary components of operational regulated right or debt corresponding

elementary components of operational regulated. At the same time, the use of retrospective reference data space make it possible to identify the best operational practices for subsequent accounting period of the current reference, using data obtained by solving the associated linear regression problems for all basic components.

Comparative analysis of the results of all three approaches is an utile instrument for the determining of the best strategic alternatives to maximize regulated right, toward minimizing of regulated debt or toward an optimum operational.



t	si	rd	rc
-11	669.537	983.233	1.048.882
-10	707.621	809.183	824.291
-9	731.641	676.527	672.807
-8	722.007	635.058	630.524
-7	706.053	855.934	847.956
-6	736.197	608.156	584.742
-5	734.085	880.521	832.047
-4	688.687	773.847	726.524
-3	673.017	602.714	598.043
-2	673.416	701.242	696.792
-1	669.218	449.349	469.221
0	659.060	620.422	618.418



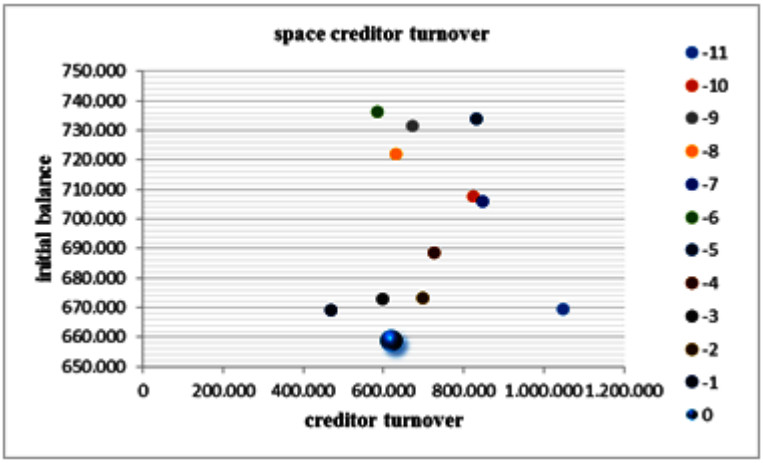
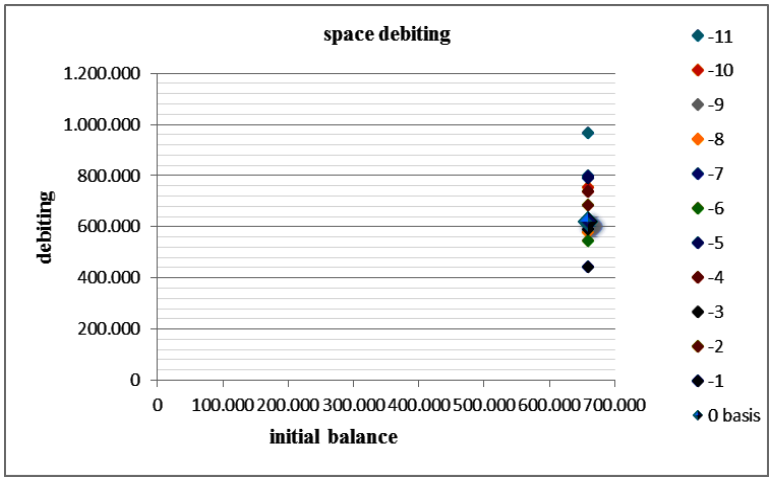
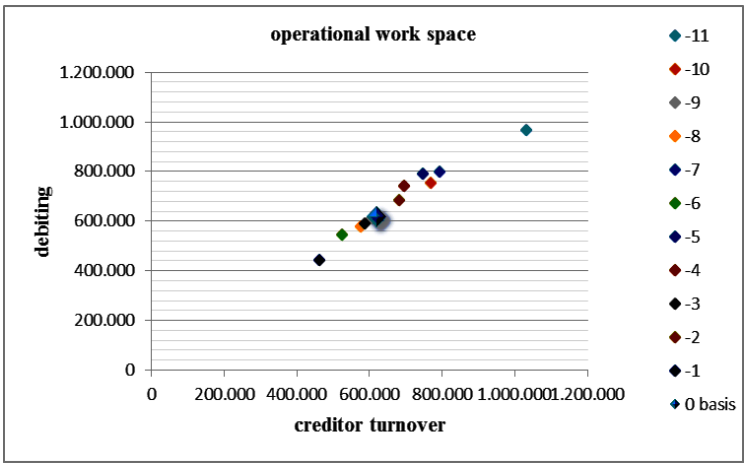


Figure 1: Retrospective analytical area



t	si	rd	rc
-11	659.060	967.847	1.032.469
-10	659.060	753.652	767.723
-9	659.060	609.414	606.063
-8	659.060	579.692	575.553
-7	659.060	798.965	791.518
-6	659.060	544.435	523.474
-5	659.060	790.530	747.010
-4	659.060	740.556	695.269
-3	659.060	590.215	585.640
-2	659.060	686.293	681.937
-1	659.060	442.528	462.099
0 basis	659.060	620.422	618.418



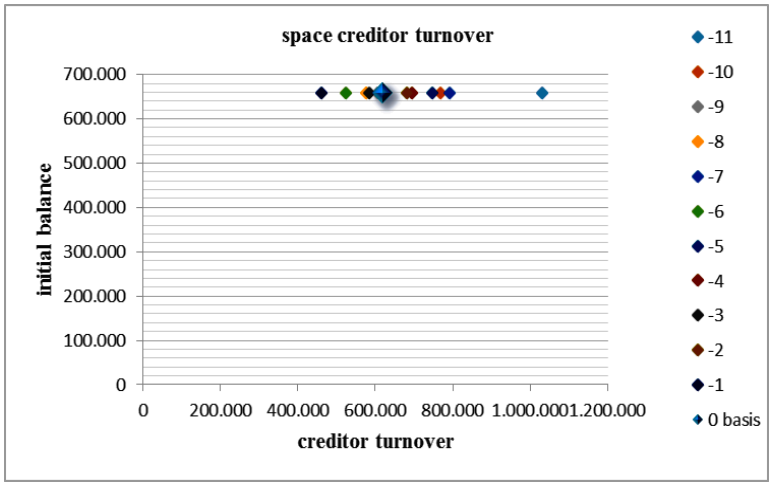
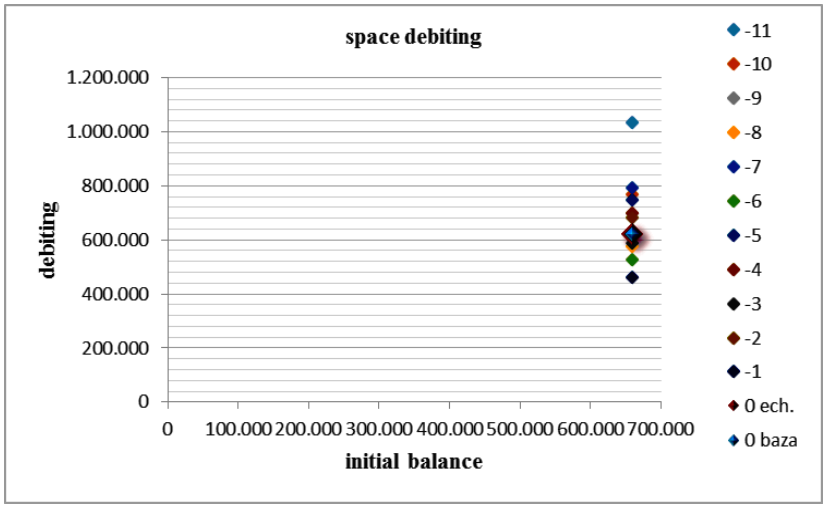
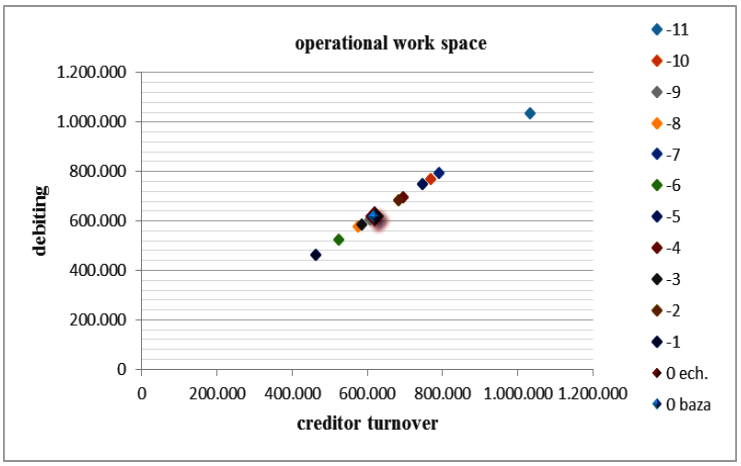


Figure 2: Analytical area of equivalent financial position



t	si	rd	rc
-11	659.060	1.035.815	1.032.469
-10	659.060	770.211	767.723
-9	659.060	608.027	606.063
-8	659.060	577.418	575.553
-7	659.060	794.083	791.518
-6	659.060	525.170	523.474
-5	659.060	749.431	747.010
-4	659.060	697.522	695.269
-3	659.060	587.538	585.640
-2	659.060	684.147	681.937
-1	659.060	463.596	462.099
0 ech.	659.060	620.422	618.418
0 basis	659.060	620.422	618.418



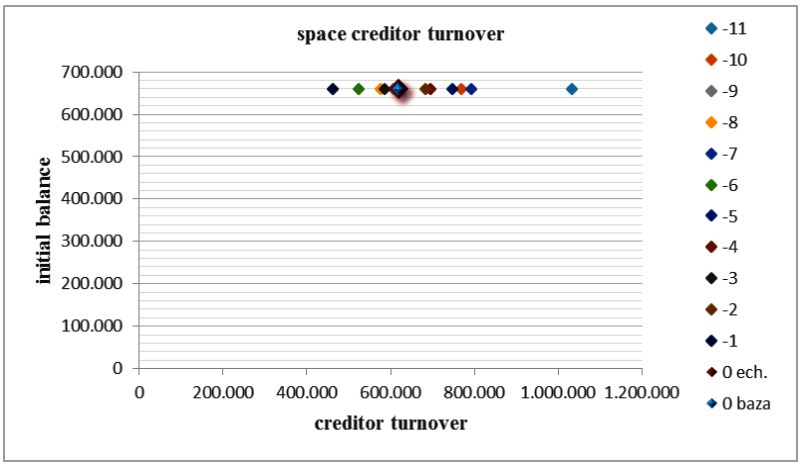
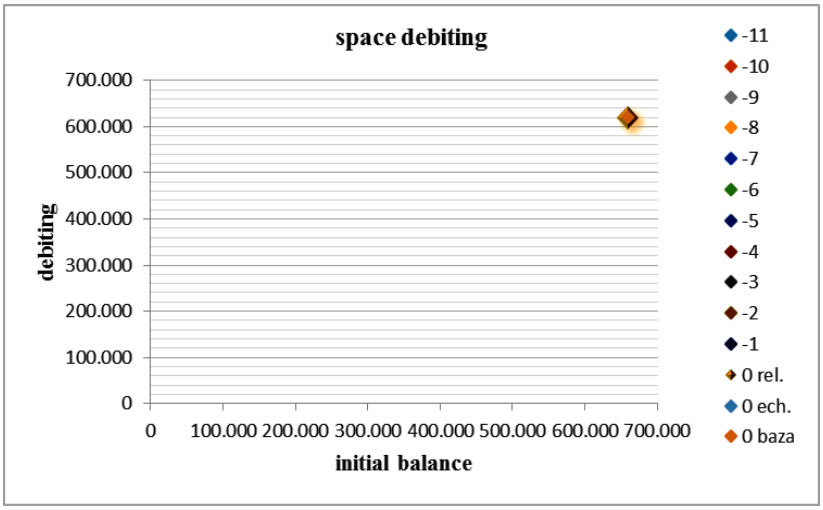
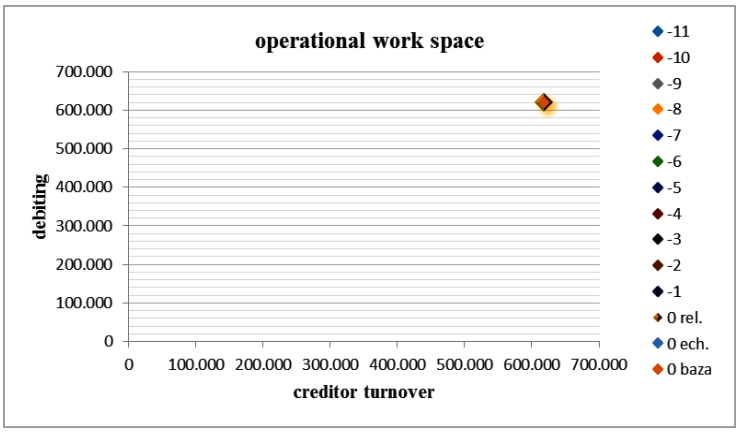


Figure 3: Area of operational practice of equivalent efficiency



t	si	rd	rc
-11	659.060	620.422	618.418
-10	659.060	620.422	618.418
-9	659.060	620.422	618.418
-8	659.060	620.422	618.418
-7	659.060	620.422	618.418
-6	659.060	620.422	618.418
-5	659.060	620.422	618.418
-4	659.060	620.422	618.418
-3	659.060	620.422	618.418
-2	659.060	620.422	618.418
-1	659.060	620.422	618.418
0 rel.	659.060	620.422	618.418
0 ech.	659.060	620.422	618.418
0 basis	659.060	620.422	618.418



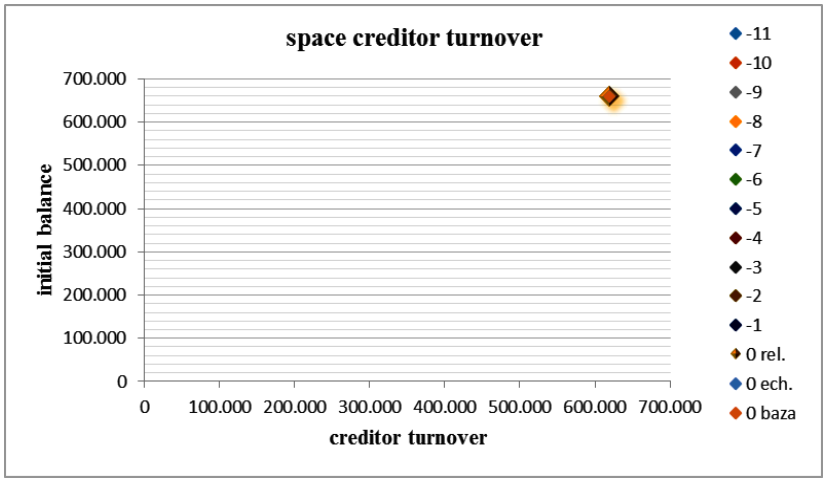
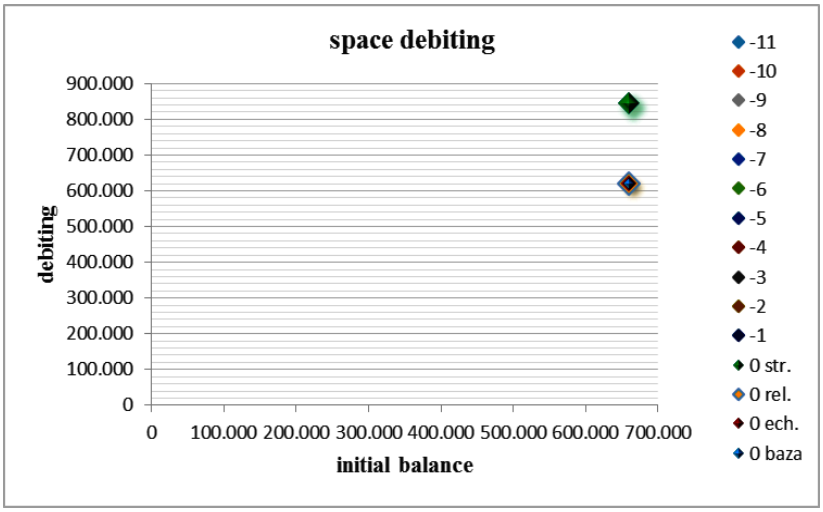
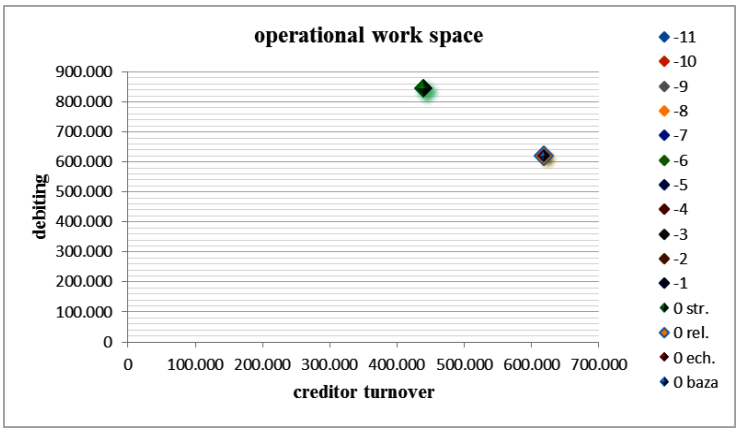


Figure 4: Area of relative efficiency operational practice



t	si	rd	rc
-11	659.060	620.422	618.418
-10	659.060	620.422	618.418
-9	659.060	620.422	618.418
-8	659.060	620.422	618.418
-7	659.060	620.422	618.418
-6	659.060	620.422	618.418
-5	659.060	620.422	618.418
-4	659.060	620.422	618.418
-3	659.060	620.422	618.418
-2	659.060	620.422	618.418
-1	659.060	620.422	618.418
0 str.	659.060	845.269	439.906
0 rel.	659.060	620.422	618.418
0 ech.	659.060	620.422	618.418
0 basis	659.060	620.422	618.418



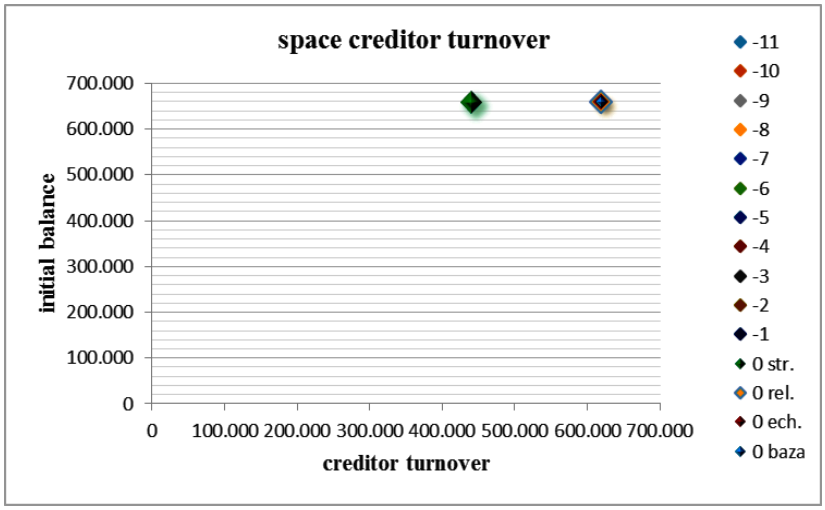


Figure 5: Area of strict operational practice efficiency

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Rezumat

Evaluarea activității operaționale a unei întreprinderi poate permite identificarea celei mai bune activități operaționale orientate pe dreptul reglementat sau creanța reglementată. De un interes special pentru oricare factor de decizie mandatat să administreze, sub aspect financiar, un interes investițional în activitatea operațională a unei întreprinderi, este și stabilirea celei mai bune practici operaționale. În primul caz se urmărește o reducere proporțională a tuturor creanțelor reglementate specifice, iar în cel de-al doilea caz o creștere proporțională a tuturor drepturilor reglementate specifice. Stabilirea celei mai bune practici operaționale este orientată către identificarea unei posibilități fezabile de creștere a tuturor drepturilor reglementate operaționale concomitent cu o reducere proporțională a tuturor creanțelor reglementate operaționale.

Metoda propusă de autor vizează stabilirea celei mai bune practici operaționale utilizând tehnica analitică a anvelopării datelor. Datele obținute pot fi utilizate în analize ulterioare orientate pe evaluarea riscului operațional, a riscului poziției financiare și performanței financiare sau prospectiv, în stabilirea celei mai bune practici operaționale pentru perioada contabilă imediat ulterioară celei de referință curentă.

***Cuvinte-cheie**: evaluarea întreprinderii, stabilirea celei mai bune practici operaționale, analiza anvelopării datelor, benchmarking.*

Аннотация

Оценка операционной деятельности определенного предприятия может выявить наилучшую операционную деятельность, направленную на правовое регулирование или регламентированное требование. Особый интерес для любого уполномоченного управленца, принимающего решения с финансовой точки зрения, инвестиционный интерес в операционной деятельности предприятия заключается в определении наилучших операционных практик. В первом случае преследуется пропорциональное сокращение определенных правовых требований, а во втором случае пропорциональное увеличение всех соответствующих правовых требований. Установление наилучших операционных практик направлено на нахождение реалистичных возможностей роста всех операционных регулируемых прав одновременно с пропорциональным уменьшением всех операционных правовых требований.

Предложенный автором метод состоит в создании наилучших операционных практик путем применения аналитической техники обработки данных. Полученные данные могут быть использованы в последующих анализах, ориентированных на оценке операционных рисков, рисков финансового состояния или финансовых достижений или перспективно в определении наилучших операционных практик за период, следующий за отчетным.

***Ключевые слова**: оценка предприятия, установление наилучшей операционной практики, анализ данных, бенчмаркинг.*