



CAPITAL STRUCTURE ANALYSIS OF THE MEDICAL DIAGNOSTIC-CONSULTATIVE CENTERS IN VARNA (absolute indicators)

Lyubomira Koeva-Dimitrova,
Department of Health Economics and Management, Medical University-Varna, Bulgaria

SUMMARY:

The capital structure analysis of medical institutions is related to the assessment of their financial sustainability. The degree of their financial sustainability indicates the extent to which the medical institution is exposed to financial risk. This financial risk is related to the use of foreign capital (debts, loans, etc.) and it is defined as the probability of insolvency and possible bankruptcy due to the existence of debts which could not be repaid at some point in the foreseeable future.

Objective: To analyze the capital structure of the medical diagnostic-consultative centers in Varna city and on this basis to assess their long-term solvency and existence of financial risk.

Materials and Methods: The materials for the study are the published annual financial statements (up to 05. 01. 2016) in the Commercial Register for the period from year 2008 to 2014 of all MDCCs (Medical Diagnostic Consultative centers), registered in Varna - 9 in total.

In the study are applied logical-mathematical methods (comparison, grouping, detail, graphical method); financial and accounting analysis (balance sheet analysis; analysis of absolute ratios for financial sustainability).

Results: Upon analysis of the capital structure of MDCC's are studied the main absolute indicators characterizing the conditions for financial sustainability and the existence of financial risk regarding the solvency. A table represents the overall assessment of the degree of financial sustainability of the companies according to the type and structure of the fulfilled criteria. It was ascertained that for year 2014, DCC 3, 4, 5 and 8 have met all the conditions and according to them these hospitals have very high financial sustainability. DCC 7 has an average financial sustainability, DCC 1 and 2 are in a financial crisis and DCC 6 and 9 are facing bankruptcy. It must be emphasized that nearly half of the studied health care organizations (DCC 1, 2, 6 and 9) need urgent intervention by the owners regarding the preparation of remedial measures and programs, revaluation of assets, reduction of capital, reorganization, restructuring and others. Regarding the Municipal DCC's that have the same owner - Varna Municipality, an individual approach for each consultative center should be applied, depending on the different nature and specifics of the activity. A strict monitoring of the financial performance and discipline is necessary.

Conclusion: The capital structure analysis allows to all interested external users of information to evaluate the

financial sustainability of the health care organizations, as well as their ability for debts repayment in the future.

Keywords: analysis, capital structure, financial sustainability, financial risk, diagnostic-consultative centers, health care organizations, Varna

INTRODUCTION:

The capital structure analysis of medical institutions is related to the assessment of their financial sustainability. The degree of their financial sustainability indicates the extent to which the medical institution is exposed to financial risk. This financial risk is related to the use of foreign capital (debts, loans, etc.) and it is defined as the probability of insolvency and possible bankruptcy due to the existence of debts which could not be repaid at some point in the foreseeable future.

OBJECTIVE AND TASKS:

The aim of this article is to analyze the capital structure of the medical diagnostic-consultative centers in Varna city and on this basis to assess their financial sustainability, solvency and existence of financial risk.

The relevant tasks to achieve the objective are: to present and analyze relevant indicators for analysis of capital stability; to make an overall analysis of the capital structure of DCCs based on the calculated indicators. To assess the capital stability and the existence of capital risk solvency.

MATERIALS AND METHODS

The materials for the study are the published annual financial statements (up to 05.01.2016) in the Commercial Register for the period from year 2008 to year 2014 of all MDCCs (Medical Diagnostic Consultative centers), registered in Varna - 9 in total [1]. There is no published data for DCC 2 for year 2009 and for DCC 9 for year 2014. For the purpose of this study, numbers from 1 to 9 have been assigned to the health care organizations. DCC from 1 to 7 are Varna Municipality property, one of them is state property. DCC 8 and 9 are private property.

In the study are applied logical-mathematical methods (comparison, grouping, detail, graphical method); financial and accounting analysis (balance sheet analysis; analysis of absolute ratios for financial sustainability).

RESULTS AND DISCUSSION

The analysis of the capital structure of DCCs is performed by calculating the absolute and/or relative indicators, based on which their financial stability (sustainability) is assessed. The group of absolute indicators relates to so called “Indicators - conditions for financial stability.” The study results of the second group (relative indicators) are not included in this article, but their values and their interpretation confirm the results and the conclusions made. They include all indicators that are obtained as a ratio of different elements or combination of elements (ratios and relative shares) of financial data. Indicators for financial independence and financial autonomy are calculated.

Upon the analysis of the absolute indicators it is considered [2, 3, 4, 5, 6, 7] that in order to define the company as financially stable, the following conditions should be met:

1. Total Assets – Total Liabilities > 0 i.e.

Total Equity > 0, where Total E = Equity (E) + Funding + Deferred Income

2. Total Assets (TA) – Total Liabilities (TL) > Total Liabilities, i.e. (TA-TL)-TL>0

3. Equity (E)+ Long term Debts (LD) > Fixed Assets (FA), i.e. (E+LD)-FA>0

4. Current Assets – Current Liabilities > 0, i.e.

Working Capital (W) > 0, or Current Assets > Current Liabilities

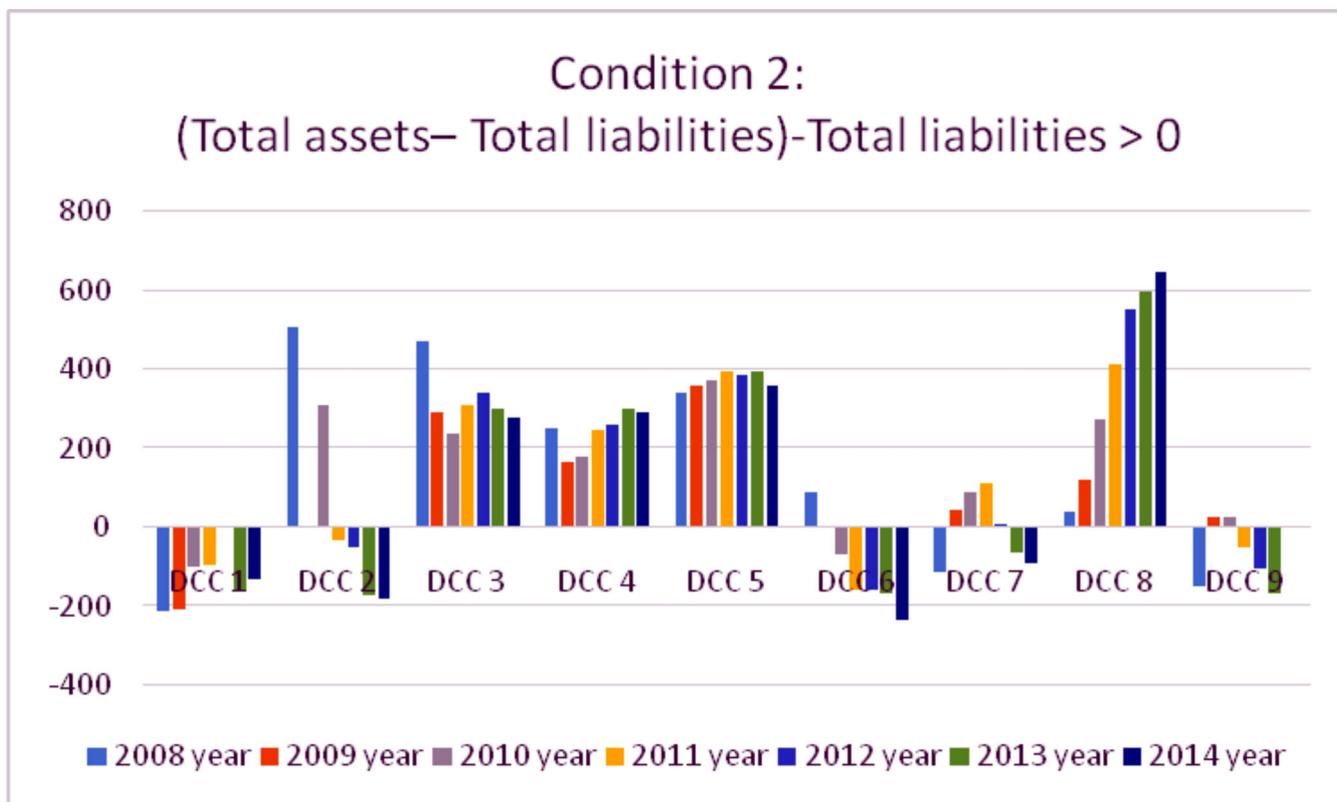
5. Working Capital + Short-term Loans > Inventories

6. Current Assets – Current Liabilities > Inventories

According to the **first condition**, total assets minus total liabilities should be greater than zero, i.e. the equity should have positive value. The balance sheet equality reveals that in this case, the total equity will include: Equity + Funding + Deferred Income. There are cases where the equity of the company has negative value – DCC 6 (-9 000 lv for 2014) and DCC 9 (-11 000 for 2011, -26 000 lv – 2012 and -45 000 for 2013.). The reason for that is their very high degree of deleveraging. Over several consecutive years, the companies’ reported losses and the accumulated negative financial result exceed the equity and the reserves. Usually, the financial situation of such companies is extremely severe and often they fall into bankruptcy. The fact that the equity is negative means that the financial obligations of these companies are greater than the book value of their assets. This explains situations where companies possessing assets for millions are sold at a symbolic price of BGN 1 [2, p.2].

The **second condition** is related to the financial structure of the company. In general, the debt financing increases the financial risk. In order to control this risk within reasonable limits, it is recommended that the equity exceeds the financial obligations (Total Assets – Total Liabilities > Total Liabilities). DCCs 1, 2, 6, 7 8 9 do not meet this requirement (fig. 1).

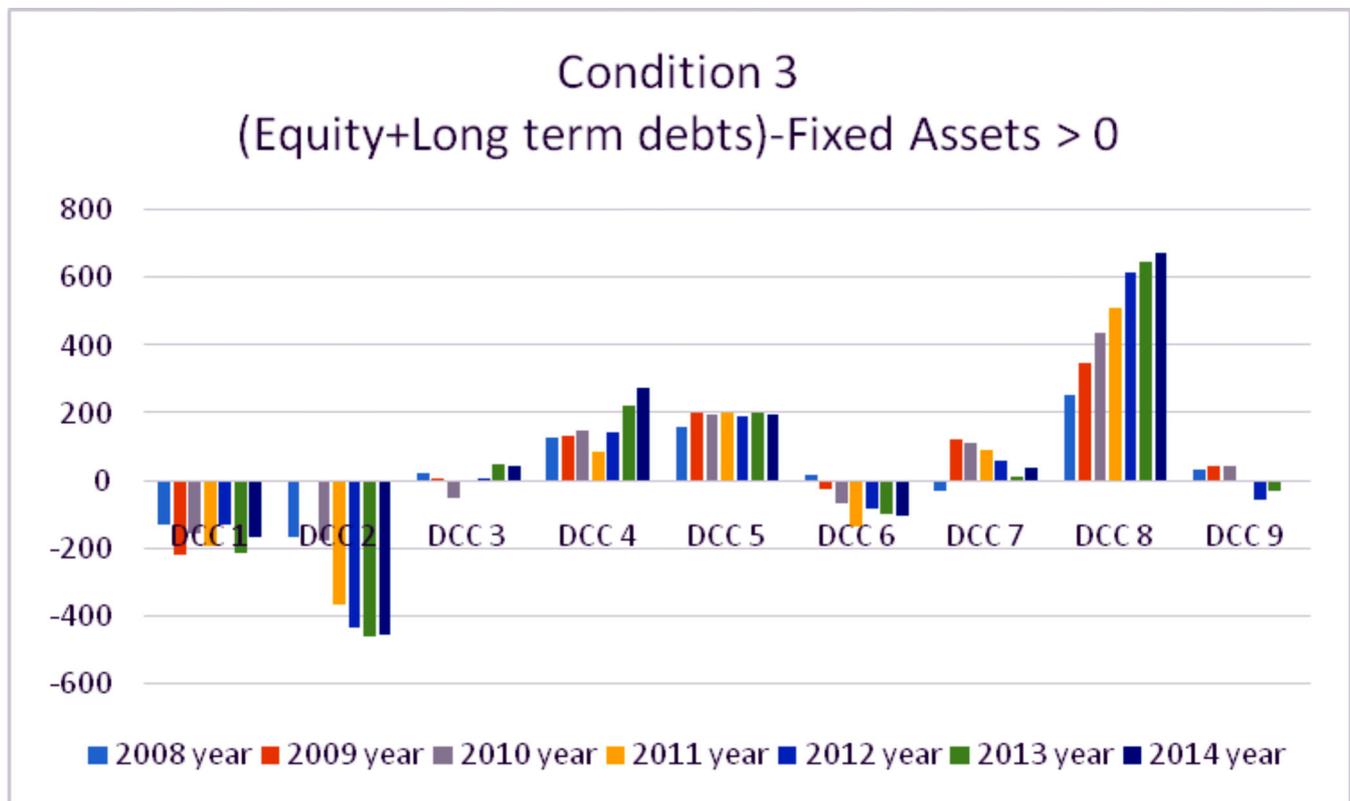
Fig. 1. Indicator’s values according to Condition 2



The **third condition** is related to the sources of investment financing in the company. According to it, the sum of the equity and long-term liabilities must exceed the amount of fixed assets. This is a basic requirement in terms of return on capital and return on borrowings of the company (liabilities). If the above mentioned inequality is not satisfied, this means that the company has used short-term

sources for creating a part of the fixed assets. Given that the fixed assets have slow liquidity this can lead to difficulties or even impossibility of the company to return the borrowed short-term liabilities, such as falling into arrears and insolvency, with all the negative consequences for the company. Figure 2 reveals that this condition is not met in DCCs 1, 2, 6 and 9 during the last analyzed years.

Fig. 2. Indicator's values according to Condition 3



The **fourth condition** is linked to third one. According to it, the working capital (W) must be positive or Current Assets - Current liabilities > 0. Let's mention again that the W represents in absolute value the portion of the current assets that is funded by long-term sources of capital - own or borrowed. If the fourth condition is not met, this means that the entire working capital was financed by short-term obligations. This could be a signal for financial problems like delay of payments to suppliers, staff, banks and others. If the fourth condition is not met, this automatically means that the third condition is also not met, and vice versa. This is due to the fact that the W equals the difference between the long-term sources of capital (E+LD) and fixed assets (FA), i.e. (E+LD) - FA=W.

The graphic reveals that his condition has not been met for DCC 1, 2, 6 and 9 for the last analyzed years (fig. 2).

The **fifth condition** is related to the funding sources of the usual operating activity of the company and in particular to the funding of the inventories. Usually, they are financed with long-term sources in the form of W and short-term sources like bank and commercial loans. Failure to meet this condition means that one part of the inventory is financed by interest-free current liabilities, for example - to

suppliers, customers, staff and others. This could be a signal for financial problems related to working capital shortage and is a cause for delay of payments to contractors, employees, etc.

Because of the small amounts of inventories in the majority of the DCCs, the fifth and the sixth conditions are usually met (in the cases where W is positive) and are not crucial in the determination of their financial situation and sustainability.

The **sixth condition** is similar to the fifth, but sets more strict requirements for the financial stability compared to the fifth one - W to exceed the amount of inventories. DCCs with negative value of W usually do not fulfill the sixth condition. This is why it is not surprising that DCCs 1, 2, 6 and 9 again do not meet the last two conditions.

Practically speaking, few companies satisfy this condition as the current activity is rarely funded solely by long-term sources of capital (E and LD). Great part of the companies overcomes the working capital shortage by using short-term loans.

In its publication, Todorov uses a table to determine the financial sustainability [2, p. 3-4]. Based on this, we have specified the financial stability degree of the DCCs (Table 1).

Table 1. Determination of degrees for companies' financial sustainability

Degree of financial sustainability	Fulfillment of financial sustainability conditions	2013	2014
Very high	All conditions are met	DCC 3; 4; 5; 8	DCC 3; 4;5;8
High	6th condition is not met only		
Average	First option: 5th and 6th conditions are not met Second option: 2ond condition is not met	DCC 7	DCC7
Low	First option: 3rd, 4th, 5th and 6th conditions are not met Second option: 2ond, 5th and 6th conditions are not met		
Lack of sustainability (financial crisis)	2nd, 3rd, 4th, 5th and 6th conditions are not met	DCC 1;2;6	DCC 1;2
Severe financial crisis (possible bankruptcy)	None of the conditions is met	DCC 9	DCC 6

The analysis of the capital structure of the DCCs in Varna with the support of the table 1 for determination of the financial sustainability degree of the company reveals that for year 2013 and year 2014 DCC 3, 4, 5 and 8 have met all conditions, according to which these hospitals have very high financial stability. DCC 7 has an average financial stability, DCC 1 and 2 are in a financial crisis and DCC 6 and 9 are facing bankruptcy.

CONCLUSION:

The capital structure analysis, carried out on the basis of an overall analysis of the absolute indicators for financial sustainability of the DCCs in Varna, concludes that almost half (DCC 1, 2, 6 and 9) of the studied hospitals need urgent intervention by the owners regarding the preparation of remedial measures and programs, revaluation of assets, reduction of capital, reorganization, restructuring and others. Regarding the Municipal DCC's that have the same

owner - Varna Municipality, an individual approach for each hospital should be applied, depending on the different nature and specifics of the activity. A strict monitoring of the financial performance and discipline is necessary.

It is importantly that the health care managers continuously monitor, analyze and forecast the degree of financial stability of their hospitals. This enables timely implementation of various anti-crisis measures and procedures.

In addition, the capital structure analysis allows to all interested external users of information to evaluate the financial sustainability of the diagnostic-consultative centers, as well as their ability for debts repayment in the future. It should be noted that the violations of economic sustainability of the organization leads to a crisis which extreme degree is the bankruptcy or termination of the organization.

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Address for correspondence:

Lyubomira Koeva-Dimitrova,
Department of Health Economics and Management, Medical University-Varna
55, Marin Drinov Str., 9000 Varna, Bulgaria;
E-mail: lubomira@yahoo.com; lubomiradimitrova@gmail.com