Marmara Üniversitesi Öneri Dergisi • Cilt 12, Sayı 48, Temmuz 2017, ISSN 1300-0845, ss. 153-174
DOI: 10.14783/maruoneri.vi.331667

FINANCIAL CONDITION ANALYSIS IN MUNICIPALITIES: A CASE OF TURKEY*

Fatma ÖZKUL**
Betül Şeyma ALKAN***

Abstract

This study included the analysis of prepared comprehensive financial statements with the transition to accrual-based accounting system from cash-based accounting system in the public institutions in 2006. In Turkey, there is no specific method developed to the goals of public institutions. GASB [1] Reporting Model, which is a model developed in the USA, and is not yet used in Turkey, has been applied by taking financial statements data of the Istanbul Metropolitan Municipality. The study was carried out using the institution's balance sheets and statement of financial performance for 2006-2014. Using ratios developed in the model, the financial condition of institution was measured from four different aspects: cash solvency, budget solvency, long-term solvency, and service-level solvency, and the results were analyzed. The purpose of the study is the implementation of financial analysis methods to have a public sector accounting information system that will achieve a financial structure which can measure, evaluate and develop the financial condition of public institutions by decision-making and that will contribute to the efficient and comprehensible use of the produced information by decision-makers in Turkey.

Keywords: Accounting, Municipality, Financial Condition, Analysis Methods

* Makale Gönderim Tarihi: 15.11.2016; Kabul Tarihi: 18.05.2017

** Bahcesehir University, Faculty of Economics, Administrative and Social Science, Department of Business, Assoc. Prof. Dr.

*** Bahcesehir University, Social Science Institute, Accounting and Auditing, Ph.D.

[1] GASB: Governmental Accounting Standards Board, that establishes accounting and financial reporting standards for U.S. state and local governments.

BELEDİYELERDE MALİ DURUM ANALİZİ: TÜRKİYE ÖRNEĞİ

Öz

Bu çalışmada, 2006 yılında kamu kurumlarının nakit esaslı muhasebe sisteminden tahakkuk esaslı muhasebe sistemine geçmesiyle birlikte üretilen kapsamlı mali tabloların analizine yer verilmiştir. Türkiye'de kamu kurumlarının amaçları doğrultusunda geliştirilmiş özel yöntemler bulunmamaktadır. Ancak ABD'de geliştirilen ve ülkemizde henüz kullanılmayan bir model olan GASB raporlama modeli, İstanbul Büyükşehir Belediyesi mali tablo verileri ele alınarak uygulanmıştır. Çalışma, kurumun 2006 - 2014 yıllarına ait bilanço ve faaliyet sonuçları tablosu verileri kullanılarak gerçekleştirilmiştir. GASB raporlama modelinde yer alan oranlar kullanılarak, kurumun mali durumu nakit ödeme gücü, bütçe yapısı, uzun vadede borç ödeme gücü ve hizmet sürdürebilirliği olmak üzere dört açıdan analiz edilerek, sonuçlarına yer verilmiştir. Çalışmanın amacı, ülkemizde kamu kurumlarının mali durumunu ölçebilecek, değerlendirebilecek ve kararlar alabilen bir mali yapıya kavuşmasını sağlayacak bilgi üreten bir muhasebe sisteminin geliştirilmesine ve üretilen bilgilerin karar vericiler ve kamuoyu tarafından daha anlaşılır ve etkili bir şekilde kullanılmasına katkı sağlayacak mali analiz yöntemlerinin uygulanmasıdır.

Anahtar Kelimeler: Muhasebe, Belediyeler, Mali Durum, Analiz Yöntemleri

I. INTRODUCTION

Accounting in public finance management is a crucial information system that enables the accounting and managing how and where they are used of public resources. It also enables managers who can hold public resources to use them rationally within their authorization limits and accountability. A well-structured information system provides accurate, reliable, timely and sufficient information to managers during decision-making processes. This enables managers to make efficient, timely and correct decisions while financial transparency is achieved and while management fulfills the responsibility of accountability. These points can only be achieved with a healthy public sector accounting. (Republic of Turkey Ministry of Finance General Directorate of Accounting [MFGDA], 2006: 10).

The success of public sector institutions' current and future activity performance can be measured, evaluated and developed by a developed accounting and reporting system. Therefore, public sector accounting should produce accurate, consistent and timely information in the decision-making and implementation processes of related persons and institutions. (James, 1997:154-164)

Due to the importance of transparency and accountability in public finance management especially in developed countries recently, there has been an interest in the financial condition of public institutions and their use of resources; therefore, the accrual based accounting system which demonstrates financial activities and conditions has become more

widely-used while making studies on financial statement analysis produced by this system possible. Today, many countries adopt accrual based accounting system in the public sector, and proceedings are conducted on the development of analysis methods regarding the financial statements of many public institutions. Apart from the vertical, horizontal and trend analysis methods that are used in private sector, studies that offer different ratio analysis have been conducted due to the differences between public and private institutions. The most important studies regarding the matter have been conducted on local governments. In accrual-based accounting system, transactions are booked at time of occurrence regardless of when the cash flow is. This approach enables transactions related to economic cases to be booked and reported in the fiscal year. Accordingly, periodical financial reports fully reflect the financial transactions in related activity periods (MFGDA, 2006:13). Thus, it ensures a sound infrastructure in measuring whether public resources are used efficiently, effectively and economically or in other words measuring the performance of public managers or whether they are good managers or not. (Karaarslan, 2004:43)

With the application of the Accrual Based Accounting System, comprehensive financial reports are prepared for general administration sector and to be disclosed to the public (Karaarslan, 2005:61). The financial statements that are prepared within the context of accrual based accounting are going to provide information required by a transparent and contemporary administrative system. Therefore, the system suggested by the Law No.5018 anticipates the preparation of financial statements with classified accounts. Classifying accounts in a way that allows arranging the statement of financial position and statement of financial performance will enable all financial transactions to be recorded. This is important for the activities of the people in the position of a manager at public administrations in order to be analyzed and assessed and their accountability. Besides, in the first article of the law, it is stated that the accounting system will be set up to provide accountability and financial transparency. Thus, financial reporting is one of the most important means of providing accountability and financial transparency (Karaarslan, 2005).

Financial reports are prepared to international standards, in the scope of principles of integrity, reliability, functionality, methodical validity and accessibility, based on data within accounting records and by using statistical methods. The general purpose of financial reports is to provide comprehensive information to the users on the financial standing, performance and cash flow of an economic unit in the decision-making process of distribution of resources. (Karaarslan, 2006:17)

In conclusion, the major purpose of financial reporting is to take economical decisions and provide valuable information to various users regarding the financial condition and financial performance of an institution in order to make evaluations that will help in the management of the institution (Rutherford 2000:17). In the public sector, the society as voters, the elected and taxpayers, consumers and customers, the management and employees,

buyers and sellers, government institutions, competitors, lenders, sponsors and granters, subsidiaries and partners, rating institutions and other pressure groups are regarded as the users of financial statement. (Henley et al., 1992:15-18)

Due to not being requested for financial analysis methods by financial statement users in the public sector for many years no studies were carried out on this subject during the early periods. Another reason for the absence of improvement of financial statement analysis methods in the public sector was the utilization of a cash based accounting system (Ersöz, 2011:286)

Because the scope of the cash basis accounting system was narrow and since financial statements produced in this system did not contain comprehensive information, it was not possible to develop financial statement analysis methods. Lately, with the increase in the significance of transparency and accountability concepts in developed democracies, interest regarding the financial condition and resource utilization of public institutions increased and thus an accrual basis accounting system, which displays financial operations and conditions comprehensively, became widespread and studies regarding the analysis of financial statements produced from this system became possible. Today, many countries have transferred to an accrual basis accounting system and some of these continue their studies on this subject. (Ersöz, 2011:287)

The most important studies regarding the development of analysis methods on financial statements of public institutions have been carried out on local governments. The reason is that, in the United States, where private sector financial analysis methods were first applied, local administrations, which realized part of their investments through borrowing, experienced financial crises and bankrupted, thus faced difficulties in repaying their debts (Ersöz, 2011:287)

In addition to the horizontal analysis, vertical analysis, and trend analysis, which are used in the private sector, because of differences between public institutions and the private sector, studies that proposed different ratio analysis methods were additionally carried out. While some of the ratio analysis studies were based only on financial statement data, others also contained socioeconomic indicators such as unemployment and population growth, which can indirectly influence the financial condition of institutions, in addition to financial statement data. The common characteristic of the two analysis systems is that they allow financial statement users and decision makers to make evaluations regarding the financial condition of institutions. (Groves et al.,1981:5)

Firstly, one of the leading studies is the Financial Indicators for Local Governments analysis system that was developed by ICMA (International City Management Association). This analysis method that was developed by ICMA aims to assess the financial condition of local government and offers an opportunity to observe changes. The ICMA system, which offers

an opportunity to make a General Economic Condition analysis, consists of 12 factors that are based on financial statement data and socioeconomic indicators, and 36 indicators which represent these factors. Some of these indicators are directly connected to the factors that determine the General Economic Condition, while the factors of political culture and life politics affect all indicators indirectly. (Groves et al., 1981:5-19) However, since it is a comprehensive method, it is not possible to obtain some indicators with financial statement data in Turkey. Part of the information can be obtained through the statistical institute or local government resources. ICMA is a model which contains socio-economic indicators besides financial indicators. However, some indicator ratios which represent socio-economic factors are not possible to provide the financial data produced in Turkey. Obtaining information on the financial condition of a local government is possible only after all indicators are obtained, thus the success of institution' activities and the financial condition of the local government is assessed and predictions can be made. (Özkul and Alkan, 2016)

The other study is the "The 10-Point Test of Financial Condition" developed by Ken W. Brown for the determination of the financial condition of small scale local governments. In this model, which was carried out to reveal the financial condition of municipalities with populations below 100,000, ten key ratios were determined and by applying these to 750 small scale city data, common measures concerning financial conditions were tried to be provided. The determined ten keys were established on four major financial operations of cities including income, expenditures, operating condition, and liability structure (Brown, 1993). Especially, Brown's 10-point test model was used comparatively for small scale municipalities with. For this reason, it is believed that it can be used in the analysis of financial statements of municipalities that have similar socio-economic infrastructure. Using data of metropolitan municipalities in this method would not be meaningful. (Özkul and Alkan, 2016)

Finally, GASB financial reporting model, which covers all governments and states in the US, is one of the first studies created by the GASB Statement No.34, aimed at measuring the financial condition of public institutions. There are 11 financial ratios in this study that aims to analyze financial statements of local governments, is carried out based on accrual basis accounting system, and proposes ratios that can be obtained by using the data of the two basic financial statements: Statement of Financial Position and Statement of Financial Performance. These ratios are used to measure the financial condition of local governments based of four different perspectives, including cash solvency, budget solvency, long term solvency, and service solvency. The cash solvency is related to liquidity and effective cash management. In addition, it is also explained by the ability of the institution to create sufficient resources to pay short term liabilities. Budget solvency is defined as the ability of the institution to form sufficient income to finance its current or demanded services. Long term solvency is defined as the ability to pay long term liabilities on future resources. Finally,

service solvency is defined as the ability to provide and sustain services in line with citizens' needs and demands (Honadle et al., 2004:139–176). The GASB reporting model is applicable to metropolitan municipalities in Turkey due to the ease of obtaining all ratios required by the models from municipality' financial statements (Özkul & Alkan, 2016). Therefore, it is expected that this study which is carried out using the GASB reporting model, will provide a basis for the assessment of a public institution's financial condition.

In this study, in regards to the use of the new financial reporting model created by the GASB Statement No. 34, and based on the studies conducted by Xiaohu Wang, Lynda Dennis and Yuan Sen Tu in 2007 regarding the evaluation of financial condition of public institutions, the creation of a new model will be attempted, and using this model, the financial statement data of the Istanbul Metropolitan Municipality, which is Turkey's most populated metropolitan municipality among all local governments within the scope of the public institutions, will be applied to the financial indicators, and the final results will be analyzed.

The objective of this study is to contribute to the decision makers in the more effective use of accrual based accounting systems and performing of financial analysis' on financial statements prepared according to accrual based accounting systems in the public sector, especially the basic financial statements such as balance-sheets and operational result tables.

II. METHOD

For researching Turkey's most populated Metropolitan Municipality, the case study method was adopted in this study. Thus, a more detailed and data-driven study has been carried out for examining the financial condition of public institutions. In the study, the statement of financial performance and balance-sheets of the Istanbul Metropolitan Municipality between the years 2006-2014 were obtained as secondary data by discussions with the municipality finance directorate. The reason for the selection of 2006 as the starting year of data for the study is due to the fact that the transition from cash-based accounting to accrual-based accounting, and thus the beginning of preparation of extensive financial statements in 2006, with Law No. 5018. The reason for the selection of 2014 as the ending year of data was due to the fact that at the time of the study's start, the most up-to-date published financial statements were those belonging to the end of 2014.

The indicators developed in the GASB Reporting Model to measure the financial prosperity of public institutions were applied to the data of the Istanbul Metropolitan Municipality that formed the population of the research, and the results were analyzed.

III. RESULTS

The Istanbul Metropolitan Municipality conducts its accounting activities and prepares its financial statements according to the "Legislation on Local Administration Budgets and Accounting", and implements an accrual based accounting system. For the financial condition analysis, the public institution's statement of financial position and statement of financial performance as basic financial statements were used. The numeric data in the financial statements were organized according to the Turkish Lira by comparison with previous periods.

The analysis consisted of 11 ratios, and these ratios are used to evaluate the financial condition of the municipality from 4 aspects; cash solvency, budget solvency, long-term solvency, and service-level solvency. Financial condition is multi-dimensional for municipalities; but within the scope of this study, only financial indicators were kept in consideration. At least 2 indicators were used for the reliability of each factor. Thus, different indicators were used together to evaluate the same financial factor. The validity of the indicators used to measure the financial condition of municipalities was verified by GASB Statement No.34. Also, the interaction between indicators used to measure each financial factor was empirically tested.

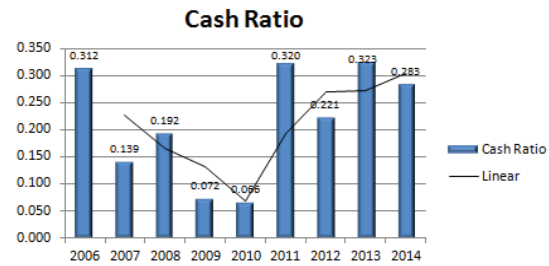
III.1. Cash Solvency

Cash solvency related to liquidity and effective cash management. It indicates a institution's ability to generate sufficient resources to pay its current liabilities. To measure the cash solvency, three different liquidity ratios were used. With the use of these ratios, the short-term debt payment capability, an important indicator of financial condition, is determined. If municipalities cannot pay their short-term debts, their borrowings can increase, leading to increase in interest expenditure, while also losing credibility. Personnel payments are one of the most important expenditure items of municipalities.

Generally, when municipalities fall into a shortage of cash, they prefer not to pay the personnel salaries, which leads to various social problems. Also, municipalities that delay the payments of goods and services they procure can lead suppliers to add a late payment risk to the prices for provided goods and services, leading to an increase in the municipalities' service costs in the long-term. In the ratios used to measure the cash solvency, the greatness of the value denotes the greatness of the assets available. It shows that the institution has assets available to fulfill its short-term liabilities; thus the cash solvency is at a high level.

Table 1. Cash Ratios of Istanbul Metropolitan Municipality

- **Financial Indicator:**
  The Cash Ratio
  Indicates ability to cover current liabilities and relates directly to short-term financial conditions
- **Financial Dimension:**
  Cash Solvency
- **Formula:**
  (Cash+Cash Equivalents+Investments) /Current Liabilities

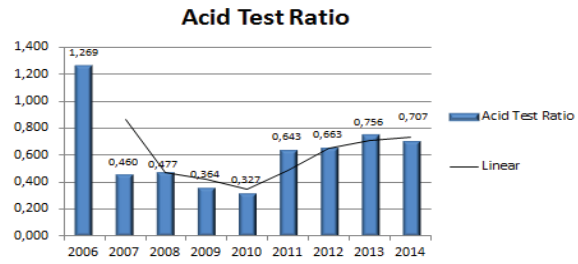


Fiscal Year	2006	2007	2008	2009	2010	2011	2012	2013	2014
Cash and Cash Equivalents	240.895.110,53	287.246.712,90	469.042.705,48	208.098.978,62	180.651.546,27	727.675.688,67	505.663.807,78	707.885.519,63	706.701.010,75
Current Liabilities	771.820.383,24	2.068.576.509,12	2.436.920.530,23	2.876.020.545,12	2.750.804.200,86	2.272.158.484,86	2.290.909.809,11	2.189.588.049,11	2.499.010.435,43
Cash Ratio	0,312	0,139	0,192	0,072	0,066	0,320	0,221	0,323	0,283

Cash Ratio is the ratio of cash and cash equivalents to short-term liabilities. It is used to measure the extent of how much of liquid assets satisfy the short-term debts. This ratio represents the institution's urgent need for cash. A decreasing amount of cash and cash equivalents as a percentage of current liabilities is undesirable as it suggests the institution is less able to pay its short-term obligations. The cash ratio must be at least 0.20; though for municipalities, it is important that this ratio be higher so as not to fall into shortage of cash. In terms of years, this ratio was lowest in 2010 as 0.066, and highest in 2013 as 0.323. After 2011, the municipality's cash ratio continued above 0.20; it could be said that the municipality's cash ratio was at a risky level prior to 2011. Additionally, within the scope of Law No. 5216 "Metropolitan Municipality Law", the İstanbul Metropolitan Municipality is able to borrow interest-free cash from İSKİ (İstanbul Water and Sewerage Administration), its affiliate establishment, in order to finance its cash needs.

Table 2. Acid-Test Ratios of Istanbul Metropolitan Municipality

- **Financial Indicator:**
  The Acid Test Ratio
  Only the amount of "cash, cash equivalents, investments and receivables" in current assets is included
- **Financial Dimension:**
  Cash Solvency
- **Formula:**
  (Cash+Cash Equivalents+Investments+Account Receivables)/Current Liabilities

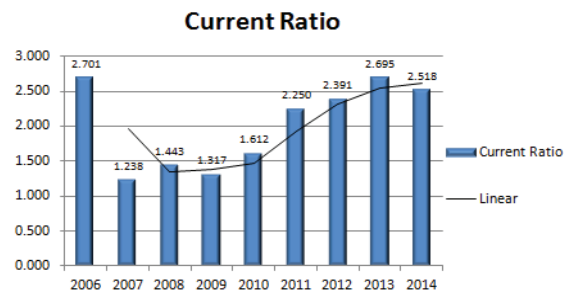


Fiscal Year	2006	2007	2008	2009	2010	2011	2012	2013	2014
Cash and Cash Equivalents	240.895.110,53	287.246.712,90	469.042.705,48	208.098.978,62	180.651.546,27	727.675.688,67	505.663.807,78	707.885.519,63	706.701.010,75
Account Receivables	738.835.457,52	665.309.042,70	693.608.241,41	838.444.580,85	718.904.423,52	734.013.284,94	1.012.441.160,98	948.271.097,79	1.059.310.088,84
Current Liabilities	771.820.383,24	2.068.576.509,12	2.436.920.530,23	2.876.020.545,12	2.750.804.200,86	2.272.158.484,86	2.290.909.809,11	2.189.588.049,11	2.499.010.435,43
Acid Test Ratio	1,269	0,460	0,477	0,364	0,327	0,643	0,663	0,756	0,707

This ratio is calculated by dividing the total of cash and cash-equivalent by the total sum of short-term liabilities. It is deemed sufficient for the acid-test ratio to be "1". Thus, the short-term debts of the municipality can be completely compensated with cash and assets that can be quickly changed to cash. It must not be interpreted that the ratio being higher or lower than 1 means that the municipality's liquidity state is good or bad. The debt collection periods of the due receivables must also be kept in consideration. It is observed that the Istanbul Metropolitan Municipality experienced cash shortages especially in the years of 2009 and 2010; but it is seen that it has restored its cash position after the sale of İDO in the third quarter of 2011. The acid test ratio has increased after 2010, up to 0.643 in 2011, when it was 0.327 in 2010.

Table 3. Current Ratios of Istanbul Metropolitan Municipality

- **Financial Indicator:**
  The Current Ratio
  Institution's ability to address its short-term liabilities
- **Financial Dimension:**
  Cash Solvency
- **Formula:**
  Current Assets / Current Liabilities



Fiscal Year	2006	2007	2008	2009	2010	2011	2012	2013	2014
Current Assets	2.084.912.508,21	2.560.888.180,15	3.517.062.928,79	3.787.363.794,21	4.435.371.608,35	5.113.232.953,38	5.477.505.365,21	5.901.778.526,60	6.291.623.571,35
Current Liabilities	771.820.383,24	2.068.576.509,12	2.436.920.530,23	2.876.020.545,12	2.750.804.200,86	2.272.158.484,86	2.290.909.809,11	2.189.588.049,11	2.499.010.435,43
Current Ratio	2,701	1,238	1,443	1,317	1,612	2,250	2,391	2,695	2,518

Current ratio is calculated by dividing the total sum of current assets by the total sum of short term liabilities. This ratio is used to measure the liquidity condition of an institution by comparing how much of the institution's current liabilities can be compensated with current assets.

As a rule of thumb, a current ratio of "2.00" is considered sufficient; but to be able to provide service to the public and to pay of its debts when they are due, a current ratio of "1.00" is considered as a safety-limit for the institution's payment capability. The higher the current ratio, the higher the institution's capability to pay off its debts. The fact that the institution's current ratio is over "1.00" every year shows that it has no problems in paying its short term debts and has no liquidity issues. It is also seen that the institution has shown an improving trend as the years progress. Especially as of 2011, the current ratio is seen to rise above "2.00". This indicates that the municipality has sufficient working assets.

It has been determined that the institution is in a good position in terms of cash payment capability and has sufficient assets for its short term liabilities when they are due. The three ratios used to measure cash payment capability have shown equivalent scores throughout the years.

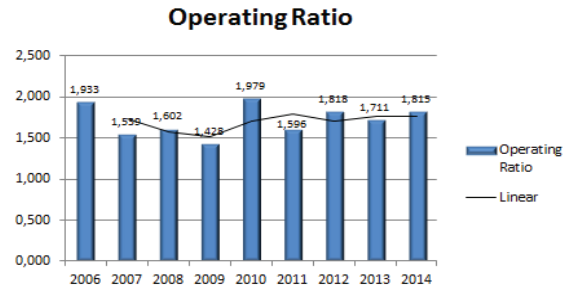
III.2. Budget Solvency

Budget solvency indicates a institution's ability to generate enough revenues to fund and maintain a certain level of services. Two different indicators have been used to measure the

budget solvency. One of main indicators of a healthy financial structure is the balance between income and expenses. The expenditures of the municipality should not be greater than its total income, otherwise providing service in the long-term may not be possible. The expenses incurred on interest costs to pay back debts leads to a reduction of resources that should be used to provide service to the public. As such, budget deficits are not good signs in terms of financial condition for municipalities. Therefore, higher values of this ratio mean a higher levels of budget solvency.

Table 4. Operating Ratios of Istanbul Metropolitan Municipality

- **Financial Indicator:** The Operating Ratio Addresses whether or not a institution's annual revenues were sufficient to pay for annual operations
- **Financial Dimension:** Budget Solvency
- **Formula:** Total Revenues / Total Expenses



Fiscal Year	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total Revenues	3.149.045.817,06	3.550.407.715,73	4.160.325.704,09	4.460.549.452,62	5.175.853.254,41	7.063.048.244,80	7.664.500.272,67	8.637.045.847,92	9.623.108.432,08
Total Expenses	1.628.938.427,66	2.307.295.107,04	2.596.228.173,64	3.123.424.433,47	2.615.846.694,64	4.425.507.603,58	4.216.057.673,42	5.046.858.498,47	5.302.224.016,58
Operating Ratio	1,933	1,539	1,602	1,428	1,979	1,596	1,818	1,711	1,815

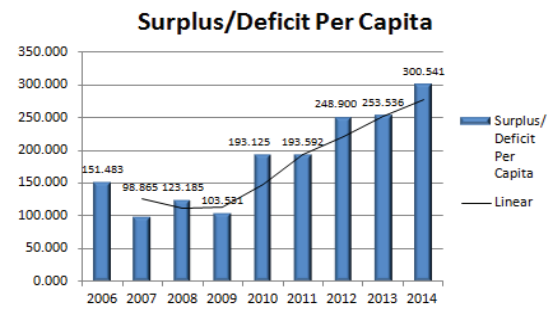
Operating ratio, is calculated by dividing the institutions total sum of income by its total sum of expenses. The institution's income total is almost two times its total expenses. It is observed that this ratio showed a decline only in the year 2009. This ratio indicates the relationship of inflow from revenues to outflow for expenditures. A high ratio suggests the government experienced a positive "interperiod equity" and is viewed as a positive factor. Operating ratios greater than 1.00 indicates a budget surplus, or less than 1.00 indicates a budget deficit.

It is generally expected for the operating ratio to be above "1.00" for municipalities, meaning their income is almost equal or more than their expenses. Otherwise, budget deficits will negatively influence the municipality's' financial condition; but if the budget deficits are because of investments and the investment costs are lower than their benefits, this can be regarded as a positive development. Additionally, due to their function of providing service to the public by spending their incomes, municipalities do not have a goal regarding savings.

This is why it is expected that the total income should be greater than the total expenses, thus having a ratio higher than "1.00", later on to be followed by investments. The positive difference between the municipality's income and expenses can be spent for tangible assets, enabling them to conduct public investments.

Table 5. Surplus (Deficit) per Capita of Istanbul Metropolitan Municipality

- **Financial Indicator:**
  Surplus /Deficit per Capita
  A positive balance is called a budget surplus, and a negative balance is a budget deficit
- **Financial Dimension:**
  Budget Solvency
- **Formula:**
  Total Surpluses (Deficits) / Population



Fiscal Year	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total Surpluses (Deficit)	1,520,107,389.40	1,243,112,608.69	1,564,097,530.45	1,337,125,019.15	2,560,006,559.77	2,637,540,641.22	3,448,442,599.25	3,590,187,349.45	4,320,884,415.50
Population	10034850	12573836	12697164	12915158	13255685	13624240	13854740	14160467	14377018
Surplus (Deficit) per Capita	**151.483**	**98.865**	**123.185**	**103.531**	**193.125**	**193.592**	**248.900**	**253.536**	**300.541**

This ratio is calculated by dividing the budget deficit or surplus by the population. This ratio shows the budget deficit or surplus per capita in the area of the municipality. Clearly, a larger value for these ratios indicates a higher budget solvency. Therefore, the ratio being a positive number is a good sign; but it has been determined that between the years 2006-2009 the institution's surplus is lower value. The institution's lowest budget surplus per capita was in 2007 with a value of 98.865 TL. The greatest budget surplus per capita was in 2014 with 300.541 TL. The results of budget surplus/deficit per capita show that the institution has shown varying performances throughout the years. As a result, institution's budget income exceeded its budget expenses. Municipality had budget surpluses and an operating ratio >1.000.

As these ratios were taken from the municipality's statement of operating performance, they represent the municipality's real income and expenses. The table should not be considered to be cash-flow, as it was made according to records based on accrual principles. For example, the budgetary surplus seen in this table can correspond to an apartment or land seen in the balance-sheet. The reason for increase in this ratio is due to the increase in the municipality's investment accounts and total tangible asset accounts.

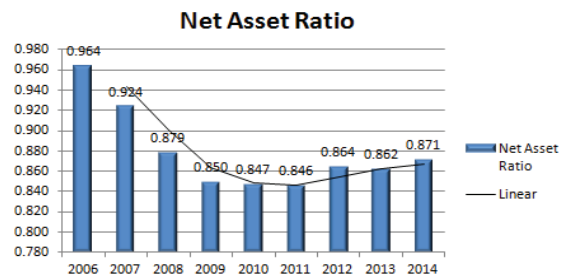
III.3. Long-Term Solvency

Long-term solvency indicates future resource availability of institutions. Three different ratios were used to measure long-term solvency. These ratios were designed to measure the institutions capability of paying long-term debts. Municipalities can take on long-term loans from the treasury or the financial market in order to make big investments; but if the municipality's long-term debt payment capability is not sufficient, it might not be able to find new funds for necessary investments and sustain its services. Also, even if they manage to find funding, they might be forced to pay high interest due to the risk ratios being high; which leads to the inefficient use of resources.

Combination of the three ratios used have both positive and negative relationships. Net asset ratios have a negative association with long-term liability ratios and long-term liability per capita. Both liability ratios have a positive relationship.

Table 6. Net Asset Ratios of Istanbul Metropolitan Municipality

- **Financial Indicator:**
  The Net Asset Ratio
  The difference between a institution's assets and its liabilities is its net assets.
- **Financial Dimension:**
  Long-Term Solvency
- **Formula:**
  Net Assets / Total Assets



Fiscal Year	2006	2007	2008	2009	2010	2011	2012	2013	2014
Net Assets	27.749.903.731,68	30.557.981.646,45	34.076.403.689,58	37.083.617.980,63	41.493.640.276,58	45.487.090.011,08	48.710.837.133,23	53.569.094.069,07	58.259.888.852,96
Total Assets	28.034.673.536,85	30.783.904.159,09	34.390.794.347,47	37.528.344.554,32	41.941.688.609,67	46.024.999.536,79	49.388.443.742,24	54.362.966.781,29	59.214.243.211,05
Net Assets Ratio	0,990	0,993	0,991	0,988	0,989	0,988	0,986	0,985	0,984

Net asset ratio measures institution's the portion of net assets compared to its total assets. A higher ratio means a higher level of long-term solvency. It determines what percentage of total assets is paid for and what percentage of total assets is still classified as a liability. This financial indicator provides a clear picture of an institution's future spending and ability. Also, it indicates ability to overcome emergencies and down cycles in the economy. The closer this ratio is to "1.00", the less the age of the municipality's assets. The Istanbul Metropolitan Municipality's net asset ratio has kept more or less constant throughout the years.

Table 7. Long-term Liability Ratios of Istanbul Metropolitan Municipality

- **Financial Indicator:**
  The Long -Term Liability Ratio
  Extent to which institution's total assets are financed with long-term liabilities
- **Financial Dimension:**
  Long-Term Solvency
- **Formula:**
  Long-Term Liabilities / Total Assets

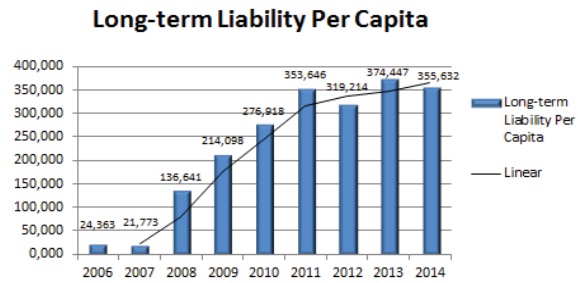
Fiscal Year	2006	2007	2008	2009	2010	2011	2012	2013	2014
Long-Term Liabilities	244.477.766,48	273.765.699,20	1.734.957.114,55	2.765.109.513,73	3.670.733.964,38	4.818.156.106,01	4.422.625.929,07	5.302.341.128,97	5.112.934.763,11
Total Assets	28.034.673.536,85	30.783.904.159,09	34.390.794.347,47	37.528.344.554,32	41.941.688.609,67	46.024.999.526,79	49.388.443.742,24	54.362.966.781,29	59.214.243.211,05
Long-Term Liability Ratio	0,009	0,009	0,050	0,074	0,088	0,105	0,090	0,098	0,086

Long-term liability ratio measures o institution's ability to pay off long-term debt by comparing long-term liabilities to total assets. The ratio is calculated by dividing the sum of long term debts by the sum of total assets. A higher ratio means lower long-terms debts paying capability. Throughout the years, the long term liability ratio has proceeded in low levels. The fact that this ratio, which shows with how much of its total assets the municipality can pay off its long-term debts is low, means that the municipality is in good condition. Higher ratio indicates lower level of ability to pay off long- term debt or a strain on future resources.

It is seen that the value of this ratio reached its peak in 2011, meaning that the municipality could have paid off its long-term debts with just 10% of its assets that year. The municipality's debts have increased considerably throughout the years due to the transportation related investments; but the municipality is able to manage the debts with successful liquidity management.

Table 8. Long-term Liability per Capita of Istanbul Metropolitan Municipality

- **Financial Indicator:** The Long-term Liability Per Capita Measures the amount of long-term liability per resident
- **Financial Dimension:** Long-Term Solvency
- **Formula:** Long-Term Liabilities / Population



Fiscal Year	2006	2007	2008	2009	2010	2011	2012	2013	2014
Long-Term Liabilities	244.477.766,48	273.765.699,20	1.734.957.114,55	2.765.109.513,73	3.670.733.964,38	4.818.156.106,01	4.422.625.929,07	5.302.341.128,97	5.112.934.763,11
Population	10034850	12573836	12697164	12915158	13255685	13624240	13854740	14160467	14377018
Long-Term Liability Per Capita	24,363	21,773	136,641	214,098	276,918	353,646	319,214	374,447	355,632

This ratio is calculated by dividing the sum of long-term liabilities by the population. Similar to prior ratio, a higher ratio means lower long-term debt paying capability. As this ratio denotes long-term debt per capita within the boundaries of the municipality, it is good that it is low. Higher levels of debt per person indicates a declining level of long-term solvency. It also suggests declining levels of service delivery as a whole over the long-term. As the long- term liability ratio, the long-term debt per capita within the municipality's borders was around 350 TL as of 2011.

If long-term debt is increasing as population stabilizes or declines, debt levels may be reaching or exceeding the government's ability to pay (assuming that the ability to generate revenue and repay debt is directly related to population size). A high ratio is not inherently bad, however, and must be considered in the local context. Governments can and should wisely use debt. A government can have a ratio of zero, for example, but lag in the provision of important services and infrastructure replacement.

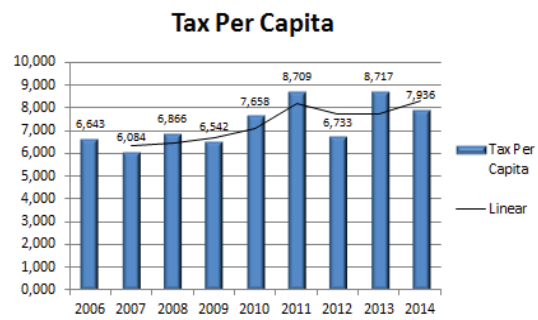
III.4. Service-Level solvency

Service-level solvency measures municipality's ability to pay and to sustain its existing service levels. Three ratios were used to measure service level solvency. The first ratio is the municipality's tax revenue per capita, the second ratio is the total income per capita, and the last ratio is total expenditure per capita. While the expenditure per capita ratio is an indicator of the cost of the service per resident, the tax per capita ratio and revenue per capita ratio denotes tax burden, and revenue burden of residents.

If short-term expenditures are high, then the quality and quantity of current services may decrease in the long term, or if the taxes and other incomes are high, increases in income may not be attainable; because the situation may lead to the citizens react negatively.

Table 9. Tax per Capita of Istanbul Metropolitan Municipality

- **Financial Indicator:**
  Tax Per Capita
  Higher tax per capita indicates a higher tax burden for residents
- **Financial Dimension:**
  Service-Level Solvency
- **Formula:**
  Total Taxes / Population



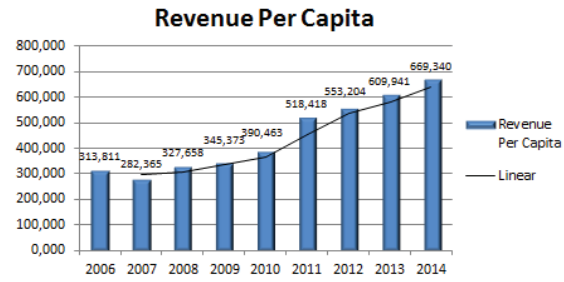
Fiscal Year	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total Taxes	66.666.260,56	76.493.201,05	87.183.741,39	84.487.337,49	101.515.539,81	118.652.519,23	93.285.983,63	123.431.710,46	114.099.306,45
Population	10034850	12573836	12697164	12915158	13255685	13624240	13854740	14160467	14377018
Tax per Capita	6,643	6,084	6,866	6,542	7,658	8,709	6,733	8,717	7,936

Tax per capita ratio measures the relationship between taxes paid per resident of the population. The ratio is calculated by dividing the total taxes by the population. This ratio denotes the average amount of taxes collected from a person. It also provides a calculation to determine how much tax burden per resident in the area is collected to cover liabilities and expenses. The taxes that the municipality is tasked with collecting as income consist of property taxes, environment taxes, announcement and advertisement taxes, entertainment taxes, fire insurance taxes, communication taxes, electricity and gas taxes, and consumption taxes. Municipalities can generate substantial income from collecting taxes from areas that are given to them by the central governing body. Taxes are the municipalities' most important income sources. According to a research conducted by examining municipalities' final accounts, it was seen that the most important type of tax was the property tax, with second place being electricity and gas tax, followed by environment tax as the third. As of 2010, the tax income of the Istanbul Metropolitan Municipality has shown an increase of around 25%. Whereas the tax per capita in 2009 was 6.542, in 2010 it has risen to 7.658, and to 8.709 in 2011. On average, approximately 6 TL of tax is collected per person. In order to say that

this ratio is low or high, it would be more appropriate to compare it with other municipalities' ratios.

Table 10. Revenue per Capita of Istanbul Metropolitan Municipality

- **Financial Indicator:**
  Revenue Per Capita
  Higher revenue per capita indicates a higher revenue burden for residents
- **Financial Dimension:**
  Service-Level Solvency
- **Formula:**
  Total Revenues / Population



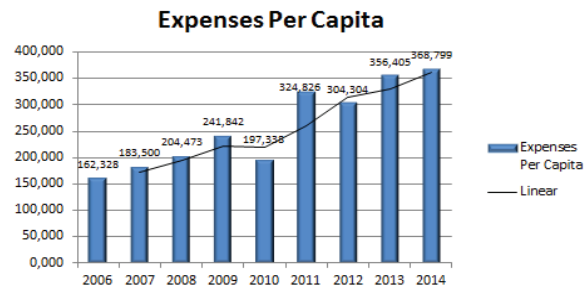
Fiscal Year	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total Revenues	3.149.045.817,06	3.550.407.715,73	4.160.325.704,09	4.460.549.452,62	5.175.853.254,41	7.063.048.244,80	7.664.500.272,67	8.637.045.847,92	9.623.108.432,08
Population	10034850	12573836	12697164	12915158	13255685	13624240	13854740	14160467	14377018
Revenue per Capita	313,811	282,365	327,658	345,373	390,463	518,418	553,204	609,941	669,340

Revenue per capita ratio compares the current income base of all public funding associated with population change. It also provides a calculation determining how much total revenue was collected per resident of municipality to cover liabilities and expenses. The biggest portion of the Istanbul Metropolitan Municipality's revenue (72%), consists of the shares from budget tax revenues, shares taken from other institutions, income from interests and fines (all together, "Other Sources of Income").

Revenue per capita shows an increasing trend. A high ratio, and increasing trend, in relation to expenditure per capita, is generally desirable for local government. A high ratio suggests the government has reached the limits of its revenue generating capacity, reducing its flexibility for obtaining additional revenues. Similarly, a low ratio, is generally undesirable but may suggest the government has greater capacity to acquire additional revenue. In order to be able to create a strategy and determine how important it is, the decrease in revenue per capita must be analyzed. Although revenue per capita shows different trends on different population categories, it is a tool to compare municipalities that are in the same population category. The increase in the revenue per capita is a positive development. A higher revenue per capita means the municipality will be able to spend more money to provide services to those people. Revenue per capita trends can help users to predict institution's ability to provide services to its community or find a cause and effect relationship.

Table 11. Expenses per Capita of Istanbul Metropolitan Municipality

- **Financial Indicator:**
  Expenses Per Capita
  Expenses per capita is an indication of the cost of services
- **Financial Dimension:**
  Service-Level Solvency
- **Formula:**
  Total Expenses / Population



Fiscal Year	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total Expenses	1.628.938.427,66	2.307.295.107,04	2.596.228.173,64	3.123.424.433,47	2.615.846.694,64	4.425.507.603,58	4.216.057.673,42	5.046.858.488,47	5.302.224.016,58
Population	10034850	12573836	12697164	12915158	13255685	13624240	13854740	14160467	14377018
Expenses per Capita	**162,328**	**183,500**	**204,473**	**241,842**	**197,338**	**324,826**	**304,304**	**356,405**	**368,799**

This ratio compares the current expenditure base of all public funding associated with population change. This ratio is an important indicator to measure the institution's level of sustainability of its provided services. Also, this ratio indicates the cost of providing services per capita. Increase in the expenditure per capita is important, as it can mean an increase in the amount of provided services. But, over time it reflects changes in expenditures relative to changes in population. A high ratio may indicate inefficiency or that cost of services may eventually exceed residents' ability to pay for services. The municipality's most important expenditure item is the personnel costs. This is why the article of the law mentioned below must be kept in consideration in terms of the municipality's expenses. Expenditure per capita trend can provide information to find causes of changes and provide solutions to correct a situation if needed. As a result, according to the comparative financial condition analysis conducted throughout the years, the Istanbul Metropolitan Municipality is observed to be in good condition as of 2011. It is possible to develop new ratios according to needs. They are important as they guide financial statement information users, auditors and the general public.

Ratio analyses can be presented with strategic plans and activity reports that are prepared within the scope of the municipality's accountability. Thus, the institution can ensure the comprehensibility and reliability of the financial analysis it presents to the public, in addition to the information it is already supposed to give out in its activity reports. The fiscal information regarding the municipality's assets and resources, budget deficit/surplus and debt structure must be presented in a way that is detailed yet understandable by all information users in the form of figures and graphs, allowing them to compare current and past periods.

Presenting of all the necessary and detailed information that is sufficient for analysis to the information users shall be ensured with the financial analysis section that will be included in the activity report or the strategic plans.

IV. CONCLUSION

The public finance management system in Turkey changed from top to bottom with the Law No. 5018 "Public Finance Management and Control Law". The most important change the Law brought along with it was the organization of the system based on the concepts of transparency and accountability, which directly correlates to the quality of a democracy. Another regulation is the switchover from the cash based accounting system to accrual based accounting.

The accrual based state accounting system did not only allow proper recording of all the activities of public institutions. It also made obligatory the preparation of detailed and extensive financial statements, enabling such information to be used in decision-making and activity evaluation processes; but the analysis of the financial statements is also necessary in order to complete the evaluation of the financial status' of public institutions. Even though detailed and extensive financial statements are prepared in private sector accounting, the decision makers do not use financial statement analysis techniques in the evaluation and decision making processes.

In the USA, financial analysis studies especially in local governments began earlier and important progress was made, whereas in our country, studies and applications regarding the performance of local governments only began after the 2000's. These studies are still in the beginning phase and the sets of indicators for local administrations have unfortunately not been fully determined, and data related to this is not reliable.

With the increase in the importance of localization of public administration, local governments have become more prominent. Among local governments, metropolitan municipalities have an important part, and it is possible to say that resource management in these administrations has made progress. As part of this importance, it is necessary to acknowledge that financial condition analyses are a necessity both for the elected administrators as well as the voters.

With the application on the data of the İstanbul Metropolitan Municipality is examined, the ratio analyses allow the financial statements to be understood more easily and in a better way. The ratios used in the study shed light for information users on the municipality's financial condition by measuring cash solvency, budget solvency, long-term solvency, and services-level solvency. It has been ascertained that municipality's cash position has been good between 2006-2014, it also can be seen in current assets to meet its short-term liabilities.

When the balance of income and expenses are examined, it is seen that the municipality has made investments in accordance with the amount of income generated. It is compulsory that the balance of income and expenses is continually monitored throughout the operation cycles, and any disruption to the balance be rectified as soon as it is identified; thus enabling the implementation of income increasing or expense decreasing counter measures. According to budget results, it is seen that municipality do not have budget deficit. Budget surplus indicates amounts used in various fields for municipality's tangible fixed assets such as land, building, vehicle, infrastructure investments.

The municipality's debts have increased considerably throughout the years due to the transportation related investments; but the municipality is able to manage the debts with successful liquidity management. The municipality's long-term debt paying capabilities are sufficient as to conduct necessary investments without hindrance. This proves that available resources are used in an efficient manner. This situation is important for service-level solvency. In addition, net assets ratio of the municipality is sufficient. When service-level solvency is considered, it is seen that the highest tax per capita ratio is realized in 2013. Taxes such as property tax, entertainment tax is municipality's own revenues. Therefore, increasing in municipality's own revenues in the period of revenue shortage is important for the its financial independence. The highest expense and revenue per capita is realized in 2014. Municipality is fairly stable in terms of service sustainability. According to ratio analysis results, it seems clearly that the financial position of municipality show a falling tendency in 2009. The main reason of this downfall can be shown reason financial crisis which started in the second half of the year 2008, but demonstrated the profound effect until the end of 2009. Also, local elections in Turkey in March can be shown as the other reason to declining in municipality's financial position which cause to increasing in spending for 2009.

In conclusion, institutions should be encouraged to provide additional data to information users for reasons such as the evaluation of the institution's performance as well as the decision making process regarding the use of resources and assessment of their management. Detailed consideration should be given to the institution's outputs created at the end of reporting periods that include financial and socio-economic indicators regarding the institution's overall success. Especially municipalities can organize data sets for ratio analyses to be used in their activity reports or their strategic plans that are part of their 5-year goals and objectives; using these to evaluate their current financial condition, to make future predictions, and monitoring the results of their activities, all together that can be referred to as performance monitoring.

References

Ersöz, M., 2011. Applicability of the Financial Statement Analysis Techniques in Public Institutions. *External Auditing Review*, 284-295.

Groves, S.M., Godsey W.M., & Shulman M.A., 1981. Financial Indicators for Local Government. *Public Budgeting & Finance*, Summer. Publications, 2003, 3.

Henley, D., Likerman, A., Perrin, J., Evans, M., Lapsley, I., & Whiteoak, J., 1992. CIPFA,Public sector accounting and financial control. 4.Th. Edition. London: Chapman and Hall. 11-12

Honadle, B.W., Costa J.M., & Cigler B. A., 2004. Fiscal Health for Local Governments: An

Introduction to Concepts, Practical Analysis and Strategies. San Diego, CA: Elsevier Academic Press. 139–176

James, G., 1997. Performans Information and Programme Evaluation in The Australian Public Sector. *International Journal of Public Sector Management*. 10 (3).

Karaarslan, E., 2004. Adventure of the Government Accounting in Turkey. *Court of Accounts Journal*, 54.

Karaarslan, E., 2005. Concept of Government Accounting and Government Accounting Standards in Turkey. Ankara: TÜRMOB Press. No: 276.

Karaarslan, E., 2006. Strategic Planning and Performance Based Budgeting in Public Financial Management, Seçkin Press.

Özkul, F.U. and Alkan, B.Ş., 2016. The Applicability of Financial Condition Analysis Methods Developed for United States Local Governments to Turkish Local Governments. *The World of Accounting Science*, Vol.18-3 September, 605-629

Rutherford, B. A. (2000). Modern financial reporting theory. UK: SAGE Publications Ltd., 17.

Republic of Turkey Ministry of Finance General Directorate of Accounting, (2006). Reform Studies in

Government Accounting: From Cash Based to Accrual Based. Ankara.

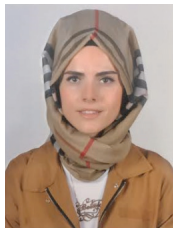
http://www.muhasebat.gov.tr/yayin/docs/Dev_Muh_Reform.doc

Xiaohu, W., Lynda D. and Yuan S. J. (2007). Measuring Financial Condition: A Study of U.S.

States. *Public Budgeting &Finance*, Summer.

Fatma ÖZKUL – fatma.ozkul@eas.bau.edu.tr

Assoc. Prof. Dr. Fatma Özkul received BA in Business Administration from Marmara University in 2000, MA in Accounting and Finance in 2002, and Ph.D in Accounting and Finance in 2006 from Marmara University. She is currently a faculty member in the Faculty of Economics, Administrative and Social Science in Bahcesehir University. Also, Özkul who is the deputy manager of the Graduate School of Social Sciences. She lectures financial accounting, managerial accounting, financial accounting standards. She has national and international publishings about fraud auditing, ethics and corporate management.



Betül Şeyma ALKAN – betulalkann@gmail.com

Dr. Betül Şeyma Alkan received BA in Economics from İzmir Economy University in 2009, MA in Accounting and International Reporting in 2012, and PhD in Accounting and Auditing in 2016 from Bahcesehir University. Her research interests include financial accounting, international financial reporting, auditing.