Implementation of full accrual basis in governmental organizations (Case Study: Shiraz University of Technology, Iran)

Saman Mohammadi
Corresponding Author,
Razi University, Kermanshah, Iran

Mohamahhadi Maher
M.A. in Accounting, Department of Accounting, Shiraz University

Sahar Zare
M.A. in Accounting, Department of Accounting, Shiraz University

Abstract
Most public sector accounting standards developed based on the assumption that the government is engaged in impartial and non-profit activities, and the duty of governmental accounting is limited to government's freedom from budget and financial analysis of funds, and there is no need for accurate calculation of performance results and financial position of government. Therefore, that cash basis is sufficient to provide government’s financial information, and full accrual basis is not required. But, recently in some countries, including Great Britain, New Zealand and Australia, an approach has been developed to use the full accrual basis in public sector accounting. In our country, some governmental organizations have moved to the use of full accrual basis in accounting. Hence, Iranian governmental organizations as well as other countries that have chosen this path, with regard to infrastructure and the existing conditions, are needed to move towards this direction. Accordingly, Shiraz Industrial University as one of the pioneers in the implementation of accrual, in 2011-2012 has started the implementation of this basis and achieved it successfully. In the present study, all requirements and methods of accomplishing this project in Shiraz University will be described and explained. Research methodology used in this study to explain theoretical issues and collecting data is library and descriptive base.

Keywords: Accrual accounting, Cash accounting, Governmental organizations, Universities.

Introduction
Evolution of human society's shows that the universe should be explained that if it really means, and it should be changed in accordance with the rules of changing and evolution. In an era that human societies are always achieving scientific, industrial and economical advances, and since the role of financial activities in development and progress is undeniable, increasingly need to develop accounting is a basic need (Tickell, 2010). Accordingly, every economic unit examines accounting information and reports to determine future procedures and plans. Since accounting information is not useable by itself, it should be recorded and classified, and summed up in financial statements.

Comprehensive financial statements can identify deficiencies, weaknesses, opportunities and abilities correctly, and remove superficiality, simplicity, self-esteem, false intoxication or extreme disappointment. Accounting has changed and evaluated a lot during past years (Rafiee, 2009). In the past three decades, a global movement, slow but steady has been started by the majority of governments to make a change from cash basis to full accrual basis.
in accounting (Boxali, 1998; Carlin, 2003). This change is the result of calls for greater accountability, transparency and sophisticated decision making towards public sectors (Dickinson, 2000). It would therefore be expected that within a few years later all other countries (including developing countries) use accrual basis in their accounting system. Public Services Committee for International Federation of Accountants believes that accrual basis of financial statements in comparison with the cash basis, provides more related, accurate, comparable and useful information for users of financial statements (Public Services Committee, 2002).

Public Services Committee encourages all countries at any level of development to move towards accrual basis and to use International Public Sector Accounting Standards. The importance of improving financial reporting of countries has also been recognized by international and local financial institutions like World Bank, International Monetary Fund, Asian Development Bank and United Nations Development Program (Hepworth, 2003). Often financial assistance of these institutions will be accomplished, provided that these countries change their accounting information systems and use accrual basis (Pina et al, 2009). Also, missions of developing accounting standards generally emphasize the use of full accrual basis accounting of public sector institutions’ non commercial activities, and have attempted to accomplish this. Accordingly, changing the accounting basis of public sector institutions’ non commercial activities has been made from cash basis to accrual basis in the United States, Australia, Canada, England, New Zealand and most European countries in 1980s and 1990s. And also, planning for providing necessary conditions to use full accrual basis has been done in early years of twenty first century. These actions illustrate the importance of applying the accounting basis for improving accounting accountability systems and financial reporting in public sector (Rafiee, 2009: 86).

Since performing accurate and timely accountability and its evaluation has a relationship with actual measurement of the amount of annual revenues and expenditures and with reflecting them completely in public sector institutions’ financial reports, therefore, it could be said that applying cash or accrual basis is highly effective in the way of recording financial events of government agencies, especially to facilitate the judgment and accurate assessment of accountability. Presenting accurate information on revenues and expenditures of government agencies in the financial reports, and comparing revenue and expenditure actual figures with expected figures in the annual budget makes a clear picture of their performance to informed judgment of monitoring units such as government, impartial and independent supervisors and other financial information users, and allows the mentioned groups to be assessed more accurately.

Currently in accounting and financial reporting systems in universities and educational institutes affiliated to the Ministry of Science, Research and Technology, semi-accrual basis and in other executive systems of the country, the modified cash basis is used. And in both of them, measuring criteria of the flow of financial resources is being used which makes many limitations for financial reporting. Regarding to the role of systems as pioneer institutions in developing science and technology, it seems that these institutions can be the pioneers of evolution in the systems of accounting in order to open a way to other executive systems of the country. Autonomy in paragraph (a) Article 49 of the Fourth Economic, Social and Cultural Planning of the Islamic Republic of Iran, passed in 2005, and Article 10 of goals, tasks and organizations rule of the Ministry of Science, Research and Technology which was granted to universities and institutions of higher education and research in the beginning of 2006 brought about the financial, administrative and employment independence, and the affairs of such institutions should just about to be run based on the provision of certain regulations adopted by related boards of trustees. According to the provisions of those
articles, the mentioned institutions are obligated to receive cost credits based on student prime cost, and to provide budget based on operations. So, accomplishing this achievement requires the development and promotion of accounting systems and financial reporting (Babajani and Madadi, 2010: 5).

To accomplish the determined tasks in Article 49 of the Fourth Economic, Social and Cultural Planning of the Islamic Republic of Iran, and regarding with developing and imparting new financial and transactional regulations of universities, the necessity for applying accrual accounting method, also the necessity for organizing and congruency between activities, the necessity for systemic approach, determining the boundaries of authority, and organizing tasks and responsibilities in financial affairs unit with considering the essence and certain conditions of any activity, the research entitled "Implementation of full accrual basis in governmental organizations" deals with explaining and modifying the way of implementation of accrual accounting systems in Shiraz Industrial University.

Theoretical foundations and research background

Most experts of public sector accounting believe that financial reporting based on cash and accrual can separately provide the different information requirements in the public sector. In this section some of the comments are briefly mentioned.

Public sector uses cash basis for registering and reporting its financial activities. Government's financial reports include the annual budget, which is prepared based on cash basis (Robinson, 2002). In contrast, in the private sector, to provide financial information for its shareholders accrual basis will be used, since accrual basis can provide more useful information for decision-making. In fact the key difference between these two bases is related to the time of the transaction identification (Tikal, 2010).

Guthrie (1998) states that within the past twenty to thirty years, politicians with the intellectual background of private companies have strengthened public sector to move towards accrual basis as the base of their financial reporting. After joining the field of macroeconomics to accounting standards, public sector accounting is now paving the same path. Today, accountants are rather more engaged in preparing and providing government's accounts and budgets. A rational reason for this change is to enterprise public sectors filled activities, and asking for more accountability and transparency in the public sector. Mellor (1996) believed that reporting based on the accrual basis makes an opportunity for government and public sector institutions to improve their management of assets and debts. Higgins (2009) believes that the most important reason for government to move towards using the full accrual basis is that, government agencies need to provide a detailed appraisal of the assets under their control in any given day. And in local government level, municipalities are located almost at the beginning of this process.

Schaik (2004) says that the use of accrual accounting compared with traditional cash accounting seems more desirable, since in accrual accounting, expenditures are compared with the performance objectives not with budgets that have already been agreed. Nesbakk (2010) states that although the essence of presenting accrual basis may make understanding what it plans to present difficult, it shows a kind of reality that is considered by developers of accounting standards.

Chase and Triggs (2001) state that transactions in cash basis are recognized when cash is received or paid. But according to accrual basis, transactions are recognized when income gains or expenses can be tolerated. It means that accrual basis focuses on receiving and paying cash, surplus and or deficit cash, while the accrual basis focuses on income, expenses and profits or losses. Thus, net incomes reported by these two bases are not equal. The government's movement advocates in applying accrual basis believe that accrual basis assists
people in better understanding of financial activities. Accountants Federation of Europe (2007) believes that the public sector remarkably in order to gain better insight towards the performance of their procedures is applying accrual accounting. With providing a tool for assessing financial flexibility and better planning, accrual accounting makes management and decision making easy.

Cohe et al (2010) in their study concluded that among the public sectors, mayors compared to other units of government, are more engaged in negotiation and consideration to apply accrual or cash basis, and they stated that accounting information of accrual basis in public sector can provide better cost management.

The International Federation of Accountants (2000) have emphasized the use of the accrual basis, and it believes that the use of cash basis severely weakens the ability of those who call for answers to evaluate the government accountability for the available resources, because this system does not provide any information about how to manage the assets and liabilities of government. This feature is considered as the greatest restriction of cash basis (full). Ouda (2003) believes that in public sector all expenditures and subscriptions should be distracted from the respective budget as they are identified and all incomes should be identified just when they are accomplished. It appears that in the budget classification and public sector financial reporting, pessimism is preferred to optimism.

Thomas (2007) states that accrual accounting possesses advantages for public sector such as: better facilitation of planning and management of financial resources, performance evaluation, presenting financial position and its evaluation, and also, assessment of financial flexibility and providing required conditions for implementation of operational budgeting.

Organization for Economic Cooperation and development (2008) states that the countries which are members of Organization for Economic Cooperation and development have consented to apply full accrual basis in public sector reporting. However they apply cash basis in budgeting or use the features of accrual basis just in a few budgeting activities.

Of course, Pina et al (2009) state that researches indicate that institutional pressures on government to apply adopted general principles in accounting and accrual basis may stem from normative pressures (legal) of professional association of accounting.

Mahdavi (2001) believes that the change in governmental accounting systems in Iran is an inevitable need. Techniques and procedures of current governmental accounting are not able to accomplish multiple goals of the public financial programs of people properly. For example, existing accounting system in the ministries or government agencies cannot provide required information for economic management of resources and operations. Moreover, the existing accounting system is disabled to provide appropriate necessary information to control effectiveness and accountability for all funds and public properties. Even worse, the cash accounting system is designed in order to complete the groups of adopted expenditures in budgeting system.

Babajani (2004) states that the current system of accounting and reporting of Iranian government is based on modified cash basis in the majority of executive systems and cannot provide appropriate accountability. Using accounting accrual basis, applying measurement criterion of the economic resources in integrated financial reporting of government, and settlement of operational budgeting can play a significant role in enhancing public sector accountability.

Kordestani and Iranshahri (2010) in their study concluded that accrual accounting has more the power to assess the effectiveness and organization performance results, and management can control the costs of the organization's activities better. In addition, the accrual basis reflects organization's long-term liabilities and total financial situation better. And also, the accrual basis results in increasing the accountability of government to its
clients, better financial management of public service managers, and increasing the performance comparability in different areas.

Babajani and Madadi (2010) in their study investigated the presence or absence of the necessary and sufficient conditions for using the modified accrual basis and the criterion of economic resources in accounting and financial reporting of universities and institutions of higher education and research. Their findings indicate that there are now necessary and sufficient conditions to apply modified accrual basis and the criterion of economic resources for making evolution in accounting of mentioned institutions.

Karbasi Yazdi and Tarighi (2010), who conducted a research, concluded that using the accrual basis in universities compared with other bases such as cash basis and modified cash, has advantages like improving the managers decision-making, providing more transparent service cost and activities, increasing accountability of managers, and providing conditions for developing operational budgeting.

Comparing cash basis and accrual basis

Government Accounting Standards Advisory Board (2008) believes that the cash basis has some problems and deficiencies, including lack of assessment on performance of organizations management, lack of congruency of mentioned method with accounting standards, lack of comprehensive activity-based budgeting system, lack of requirements for proper registration of barter and non-cash investments, failure to observe the principle of matching revenues and costs, lack of completely registering the liabilities and receivables, lack of logical connection between the benefits from applying assets and activities performed, the classification of some special receiving and payments based on the event happened instead of receiving and paying out, bugs of organizational structure and lack of financial integration in functions of various financial units including operating, control, auditing and budgeting systems, lack of intelligent financial systems and, thus the lack of liquidity management and cost management, lack of appropriate internal control systems, and finally lack of reflecting true financial position and results of units’ performance due to lack of reflecting major portion of assets and liabilities up to the time of receiving and payments in offices and reports, (Government Accounting Standards Advisory Board, 2008: 3).

Also, Government Accounting Standards Advisory Board (2008) states that accrual basis has some advantages including quick access to comprehensive, sophisticated and accurate information of present situation of the organization, access to recognition system of expenses based on accurate information of resources and necessities, identifying the amount of non received incomes in any financial period and planning to receive them, access to accurate and complete information of incomes and expenses of any period (including cash and noncash), access to making a relationship between expenses and their performance and consequently providing a fair condition to start negotiations on operational budgeting, determining the endways of incomes and expenses in any period and comparing them with incomes and expenses of any given period, and determining the results from their barter, access to calculating and registering the depreciation as the expense of the period, access to required information for planning and managerial controls, determining the cost of every project based on accounting information system, access to more accurate measuring of congruency between back up units and operating units, and determining necessary congruency between them and also, measuring them annually, access to measuring the responsibility of organizations' staffs and managers, and measuring their performance at the end of any given period in different organizational levels, access to the information of stocks and assets value of the organization, and registering the stocks in trade and fixed assets like machineries and equipments in accounting system, access to measuring and reflecting all
gained assets including purchase or transfer for other rights of the organization based on relevant principles, access to comparing the present situation with the optimal situation and relating it to organization missions from the view point of resources, assets and services. All of the above mentioned advantages will provide managers with more correctly and accurate information and financial reports for planning and decision-making and other executive operations (Government Accounting Standards Advisory Board, 2008: 5).

Barrett (1998) believes that the consequences of applying accrual accounting are divided in to seven categories: First, the comprehensive definition of cost of government programs which leads to the second consequence, that is, emphasizing the control of costs and measure the effectiveness; third, accrual digits have a significant impact on determining the pricing method to user's account; fourth, needing to show more productivity in the negotiations of business bargaining; fifth, creating greater accountability for resources used and invested by public sector institutions; sixth, creating accountability for the low level effects of debt policies that refers to the importance of measuring interclass assets, and seventh, measuring the financial effect of government policies for initial estimates which has apparently the growing benefits for it, that is budget (Rafiee, 2009: 90).

Research methodology and data collection

This research is of case studies and practical aspects. Case studies are used in situations which the researcher wants to examine an organization or an object carefully in order to explain the behavioral structures of that organization or object or their smaller components (Namazi, 2004: 71).

In this research, to write and collect the required data of theoretical principles, Persian and Latin specialized magazines have been used. To gather information related to the performing of the project, observations and interviews will be used. Also, data and information related to the implementation of accrual basis have been gathered mainly through the study of financial documents in Shiraz Industrial University.

Actions related to changing accounting basis from cash basis to accrual basis

Due to changes in governance of public financial systems from the traditional model of system management to the new system that is, accrual accounts, and determining the cost and operational budgeting, some changes should be occurred in the existing systems in organizations and public systems. It should also occur in the financial and software system designs.

Administrative procedures of changing the approach from cash accounting to accrual accounting method are as follows:

1. Reviewing the organizations of financial affairs and operations cycle methods
2. Numbering and assigning cost centers
3. Collecting and transpiring annual financial records and information
4. Matching existing conditions with the new scheme.
5. Closing the accounts
6. Providing basic financial statements

1. Reviewing the organizations of financial affairs and operations cycle methods

In line with the obligations set forth in the Fourth Economic, Social and Cultural development Planning of the Islamic Republic of Iran, and regarding to the changes of financial approach from cash to accrual, the need for organizing and congruency between activities, need for systemic approach and issuing authorities and organizing labors and responsibilities in financial affairs with regard to the special nature and circumstances of each
financial activity, the proposed financial structures and the method of operations cycle were developed. In this stage the organizational chart (indicating the type of jobs based on the nature and assigned duties of each employee in job level and hierarchy, in terms of organizational structure) required to execute the project, was presented as follows. Also, separation of duties between two deputies and subset of finance department regarding to labor organizing and working on current affairs will be different from one university to another. Also, in Industrial University, duties of the two finance deputies were merged.

2. Numbering and assigning cost centers
   At this stage, by using an eight-digit number Account groups, Cost center, General ledger, Subsidiary general ledger and Detail topics are separated.

3. Collecting and transpiring annual financial records and information
   At this stage, in order to access some annual information and modifying them, the following actions have been done:
   A. Identifying, evaluating, pricing and registering fixed assets,
   B. Identifying, evaluating, pricing and registering stock holdings,
   C. Reviewing and segregating revenues and receivables to transfer such cases to the corresponding topics in accrual accounting system,
   D. Reviewing and segregating costs, payables, to transfer such cases to the right corresponding topics in accrual accounting system,
   E. Providing and developing guidelines related to registering changes in fixed assets and stock holdings,
   F. Reviewing and determining all permanent used accounts and non-zero balance in the cash method and eventually providing the instructions needed to transfer these accounts to the right corresponding topics in accrual accounting system,
G. Registering and modifying payment in advance and annual accounts based on existing evidence.

4. Matching existing conditions with the new scheme

Due to the difference between accrual and cash basis, the following actions were undertaken to resolve potential problems:

A. Developing financial software, since there is a need for a suitable accounting software for implementation of accrual accounting, necessary studies on financial software in accrual accounting were done, and with regarding to the cost - benefit, a good financial software was selected,

B. Manpower training, a key element of the success of any project and especially the implementation of accrual is the familiarity of the manpower involved in the issue. Since some financial sector staff was not familiar with financial software and accrual accounting, a program for training staff for 30 hours was designed by experts who were familiar with the matter, it is worth noting that job training is still required,

C. Transferring cash balance to accrual accounts and required records, in this step accounting documents in 2011 related to the cash accounting were analyzed and registered based on accrual accounting.

5. Closing the accounts

At the end of the year, due to budgetary and financial records, after closing the temporary accounts, transferring permanent accounts (including assets, liabilities and surplus funds, taking account of independent or not) to the next years is being done. This is an operational process and is done based on electronic and automated document of financial system.

6. Providing basic financial statements and matching them with cash accounting

At this stage, accrual accounts are compared with cash system through worksheets provided. Figure 1 shows the worksheet used for matching cash accounting with accrual accounting.
Entity: ...........  
Preparation date: ...................  
Subject: worksheet of investigating Cash Balance with Accrual Balance (1-1 Worksheet)  
Preparatory: .........................  
Date: ................ To.................  
Investigator: .........................

<table>
<thead>
<tr>
<th>Row</th>
<th>Cash Balance</th>
<th>Amount</th>
<th>Accrual Balance</th>
<th>Amount</th>
<th>Discrepancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bank of Payment (current, proprietary and other ...)</td>
<td></td>
<td>Bank of Credit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Bank of income</td>
<td></td>
<td>Income bank (bank of centralization of specific income funds)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>On Account</td>
<td>On Account</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Prepayment</td>
<td>Prepayment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Petty Cash</td>
<td>Petty Cash of payment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Total cash costs during the period</td>
<td></td>
<td>Total accrual costs and other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In this section, considering record of cash costs is only affected by cash payments but in accrual it is affected by occurrence or tolerance, so in order to access cash costs with use of accrual costs, suggest following method:

\[
\text{Cash cost based on cash balance} = \text{Accrual cost} + \text{Total debt of accounts payable} + \text{noncash costs based on accrual - the costs of issuing orders from the warehouse}
\]

NOTE: Some of adjusting entries in the above method can affect result of operations that should be considered in the review.

Inventory and fixed assets accounts examined by the central warehouse and property office of university.

Figure 1: Worksheet of comparison cash basis accounting with accrual basis accounting

**Conclusion and recommendations**

Accrual accounting system possesses more power to assess the effectiveness and organization performance results, and management can manage organization costs better. In addition, accrual accounting system reflects organization's long-term commitments and the whole financial situation more accurately. Therefore, this study tries to describe how to implement accrual basis in Shiraz Industrial University. This study first tried to examine the existing theoretical principles in accrual accounting and its importance and advantages compared to the cash accounting. The next steps in the implementation of accrual accounting in Shiraz Industrial University are as follows: reviewing finance organizations and operations cycle procedures, coding and determining cost centers, collecting records and annual financial information and clarifying them, correcting and clarifying the annual accounts, matching existing conditions with the new scheme, continuing the executive operations due
to changes in the information cycle, closing accounts and preparing the basic financial statements. Therefore, regarding to successful execution of the first stage of this project in Shiraz Industrial University, it could be concluded that the other universities also can implement the accrual basis, and they can make a big change to move from cash to accrual accounting.

Researchers also can exert the following proposed actions to accelerate the implementation of modern financial system based on accrual accounting in other governmental agencies:

1. Assigning an independent staffer responsible for created responsibilities arising from the implementation of accrual accounting regarding to the conditions and duties of the office, including determining the accountant in charge of properties, purchasing and services,
2. Informing executive procedures and guidelines relevant to each area with emphasis on studying the comments,
3. Holding justification meetings and special meetings with finance staff and obtaining their opinion on new tasks,
4. Holding training courses for finance employees,
5. Reviewing operations cycle procedures of the financial modern system scheme in a gathering with finance staff to match existing processes with expected processes,
6. Reviewing the technical and scientific competence of stock keepers and suppliers and......to adapt them with modern financial system. And replacing them with other alternatives when they lack required competence,
7. Printing and copying forms related to instructions and executive procedures, and training the staff for optimal use of the forms if related systems are not mechanized,
8. Preparing necessary conditions to use suitable software to mechanize systems or to equip them into an integrated system,
9. Emphasizing comprehension and analysis policy of financial issues rather than increasing skills,
10. Setting a team of finance and administrative experts to identify cost centers,
11. Setting a team of finance experts to list properties,
12. Pricing the properties according to existing documentations and records, otherwise using relevant experts' comments,
13. Pricing the list of goods at the end of previous year according to the documents or price estimations, otherwise providing the list of warehouse stock through the warehouse inventory at the end of the year and pricing them,
14. Preparing necessary conditions to register the opening documents of accounts through identifying and collecting financial data relating to previous years.
References


