CHAPTER FOUR

FINANCIAL MANAGEMENT IN

YARMOUK UNIVERSITY:

ITS STRUCTURE AND PROBLEMS
Philosophy of Modern Management

Philosophy of modern management is that the management is the process which functions through three interrelated stages -(1) The first one involving judgment and decisions leading to framing of plans, (2) the second one in utilizing data to control performance and progress in the light of the plans, and (3) the third one in guiding and providing motivation. and bringing integration and doing supervision of personnel. in carrying out operations. Financial management is the crucial core of overall management in framing of organisational. strategies for the most effective use of funds aval 'fable with the organisation and the exploration of the likely sources of additional funds which the organisation may require in the present and the future. Elucidating this point, Mr. Madan Mohan. Sharma has correctly observed. "The central issue of financial policy therefore, is the proper use of funds. The art lies in using these funds as profitably as possible, planning future operations, controlling current performances, and future development through financial accounting, cost accounting, budgeting, statistics and other means. Financial Management is a sub-function of total management and its task is to assist in (i) allocation of resources, (ii) utilisation of resources and (ii.i) evaluation of results".

Lack of Scientific Study of the Problems of Financial Management of Universities in Jordan:

To my knowledge, there are hardly any scientific and systematic studies of the problems of financial management of Universities in Jordan. In reality such studies are urgently required in improving the system of financial management for better utilization of funds and in determining policies and guidelines for the more efficient governance of Universities in.
Jordan. So an attempt is here made to apply the modem financial management techniques to public universities in Jordan by taking Yarmouk University as a case-study.

**Historical Background and Present Structure of Yarmouk University**

Before we tread along this path, it becomes pertinent to give some historical background of Yarmouk University, its present Academic structure and the significant role that it has been playing in the educational, social and economic development of the country along with other public Universities in Jordan.

**A Brief Outline of Yarmouk University with its Historical Background:**

Yarmouk University was founded in 1976 to provide opportunities of university education for increasing numbers of secondary school graduates who had to study abroad. In 1976 over fifty thousand students attended college abroad draining thereby a considerable amount of national income in hard currency and financially overburdening their parents.

Thus it became necessary to broaden the basis of university education in, order to absorb the largest possible number of students and to steer this education in such a way as to meet the needs of development. Many countries try to develop their societies and industries through opening new universities closely linked with society and directly contributing to its development; for it is one of the basic objectives of the university of today and tomorrow to study the problems of society and subject them to research in an attempt to resolve them and offer guidance and service for the development of society.
In its programs and activities the University pays special attention to quality teaching, encouragement of research and community service, playing thereby a major role in the establishment of national economy, enhancement of social progress and consolidation of national scientific, material and cultural capacities.

It was decided to give the name Yarmouk to the University because of the Arab and historical significance of this name.

The University was placed in the northern region of the kingdom because it is located in a densely populated area and lies on crossroads linking all the cities of the country with one another, and joining Jordan with Syria, Turkey and Europe and extending far south to Aqaba.

To implement the University project and make it materialize, a Special Royal Commission of qualified educators was formed by a Royal Decree to act as a temporary Board of Trustees. A General Technical Committee was also formed to help the Royal Commission in finalizing its concept of faculties, specializations and programs that will be created at the University in the light of the future needs of Jordan and the Arab World and to serve the purposes of the universal development, adopted by Jordan as a methodology of thought and deed.

Intensive efforts were exerted to plan the University on sound scientific foundations where the administrative and academic structure was set up in addition to the enactment of the University law and the by-laws and regulations emanating therefrom.

The University received the first group of students at the beginning of the academic year 1976-1977 at a small campus in Irbid which was then regarded to be a temporary site after it was prepared and equipped with the necessary buildings, facilities and sports grounds and supplied with
Objectives of Yarmouk University

1. Giving more opportunities for higher education to the increasing numbers of secondary school graduates in Jordan so as to ensure the creation of good citizens who are faithful to their homeland and nation and aware of their interests.

2. Preparation of technical, specialized and trained cadres that serve the needs of economic and social development in Jordan and the Arab World.

3. Creation of a scientific and cultural nucleus capable of producing necessary researches and studies for the advancement and technical progress in Jordan and the Arab World.

4. Providing those who wish with opportunities of continuing education.

5. Upgrading the level of cultural cooperation among nations, which is based on freedom, consciousness of national identity, independence and mutual respect.

The Present Academic Structure of Yarmouk University Faculties:

At present the University embraces seven faculties, namely the Faculties of Science, Arts, Economics and Administrative Sciences, Education and Fine Art, Hijjawi College for Applied Engineering, the faculty of Sharia and Islamic Studies and the Faculty of Physical Education.
Research Centres

The University also includes centers specialized in carrying out researches in various academic fields as follows:

- The Marine Science Station which was founded in Aqaba in 1978 for scientific research in the fields of oceanology, to reduce sea pollution and to preserve sea animal life and natural resources and to develop fish resources for scientific and commercial purposes.

- In 1979 the Jordanian Studies Center was established for documenting various human creative activities in the land of Jordan.

- The Language Center was also established in 1979 to help the University and local communities in teaching living languages which constitute connecting links among peoples. In 1986 a Master’s degree program in translation was inaugurated at this Center.

- The Computer Center which was founded in 1979 to serve various research units and facilitate their delicate mathematical and statistical tasks and assist researchers through its sophisticated potentials.

- The Natural History Museum which was established in 1981 to take care of natural, animal, plant and geological resources and was recently attached to the Faculty of Science.

- The year 1981 witnessed the establishment of the Islamic Studies Center for the development of Islamic thought and offering convincing Islamic solutions to contemporary human problems through research, investigation and independent judgement, via two graduate studies programs: a higher diploma in Islamic Studies and a Master’s degree in Islamic Economy. In 1986 the Islamic Cultural Center was incorporated within the Islamic Studies Center.

- In 1981 the Educational Research and Development Center was also founded to investigate ways and means of the development of the
Semester and Credit Hour System
The academic year is distributed over two semesters and an optional summer session. The University adopted the credit hours system after having realized that this system, with its perseverance and interaction, releases the student's mental capacities and will power and enables him to take responsible decisions that make him an active partner to the University administration and faculty members.

Post-Graduate Studies Programmes
The various faculties have started graduate studies programs within an unusually short time in order to harness knowledge and link it to the requirements and developmental programs of society.

Number of the Students
During the academic year 1993/1994 the number of enrolled students in the University exceeded fifteen thousand. Until the year 1992/1993 the university graduated fourteen groups of students whose total number amounted to (28484) in various Bachelor's Master's and Diploma Specializations. Here we give the faculty-wise growth of the number of students for the years 1990-1991 to 1997-1998 as shown in Figure 4.1 and

Organisational Structure of Yarmouk University:
Now Yarmouk University functions under "Yarmouk University Law No. (25) for 1985".
University has a legal identity with financial and administrative independence and it functions as an autonomous body.
educational process and solve its problems both at the University and in the national educational institutions. The Center comprises four units: the unit of educational technologies, the research unit, the test and measurement unit and the unit of documentation and publication.

- In 1984 the Institute of Archeology and Anthropology was founded to promote the study of heritage in Jordan and other Arab countries through field researches and graduate studies programs.

- On September 30, 1989 the Higher Education Council approved the establishment of the Theoretical and Applied Physics Center supported by the International Center of Theoretical Physics, Trieste, Italy.

- On April 9, 1990 the Higher Educational Council approved the establishment of the Faculty of Sharia in Yarmouk University and the incorporation of the University Islamic Studies Center within this faculty as of the beginning of the academic year 1990/1991.

- On December 14, 1992 the Higher Education Council approved the establishment of the Consultation and Community Service Center.

- In 1997 the Refugees and Displaced Persons Studies centre was established at the Faculty of Economics and Administrative Science and in 1993, the Foreign studies programme was established at the Political Science Department.

- On March 29, 1993 the Higher Education Council approved the establishment of the Faculty of Physical Education.

* In addition, it has been also decided to initiate a doctorate program in Arabic Language and Literature
Figure 4-1

Table 4-1

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All Universities in Jordan work under the general guidance of the Higher Education Council and so we may say that the top of the administrative hierarchy of Yarmouk University also, is occupied by the Higher Education Council. (a) Under it, the University is administered by:

1. The President of the University
and
2. The University Council

(b) Each Faculty is administered by:

1. The Faculty Dean,
and
2. The Faculty Council.

(c) Each academic department is administered by:

1. The Director of the Department,
and
2. The Department Council

There are two Vice-Presidents to assist the President:

(1) Vice-President for Academic Affairs.
and
(2) Vice-President for Administrative Affairs.

They are appointed by the Council of Higher Education on the recommendation of the President. Organisational charts for Yarmouk University are given below:

President of the University is the Head of the Academic and the Administrative structure of the University
President of the University

The University President is appointed by a Royal Decree. He should be a Jordanian citizen and should be of the rank of a full professor in the University. His appointment is for a term of four renewable years.

The University Council

The University Council consists of the following members:

(a) 1. The president of the University (chairman).
2. Two Vice-Presidents.
3. The Deans.
4. Directors of Institutes and Academic Centres.
5. One member from each faculty to be elected by its members at the end of every academic year for one year beginning the following academic year.
6. Five directors of administrative departments appointed in accordance with Article 13/e of the Yarmouk University Law for one renewable year.

(b) Other members of the categories hereunder may also be members of the University Council upon proposal of the University Council and the decision of the Board of Trustees:

1. Faculty members.
2. Ex-officio administrative officials.
3. Relevant and specialized under-secretaries of ministries.
4. One university student who had previously represented the students.
5. One university graduate.
6. Any person or representative of an institution which is closely related to the University. The duration of the University Council membership of these shall be for one renewable year.

Deans

Every faculty has a Dean and they are appointed by the Council of Higher Education on the recommendation of the President.

Faculty Council

The Faculty Council consists of the following members:

1. The Dean (Chairman).
2. Deputy deans.
3. The Directors of the Academic Departments in the Faculty.
4. A representative of each academic department in the faculty elected for one year by the members of the department.
5. Not more than 3 persons of experience and ability or with special concern in the affairs of the Faculty to be appointed for one year by the University Council on the recommendation of the Faculty Council.

Director of the Department

Every academic department has a director appointed by the President on the recommendation of the Dean of the Faculty; provided he is the teacher member of the department and has spent in University teaching a period not less than 5 years after quiring the higher academic qualification. The appointment is for a term of 2 years, subject to renewal and the principle of rotation is to be observed whenever possible.
Chart 4.2 Organizational Structure

Deans -------------------------- President ---------------------- University Council
Council

Vice President for Academic Affairs

Vice President for Administrative Affairs

Academic Units

Administrative Units

Faculties

Research Centres

Departments

Sections Offices

Chart 3.3 Governance Structure

University Wide-Level

President

Deans Council

University Council

Deans of Faculties

Deans of Faculties, Elected Faculty Members and Representative of Administrative Departments and Local Community

Committees on Academic Matters (academic personnel)

Committees on Administrative Matters (Joint academic and administrative personnel)

Dean

Administrative Board

(Dean and faculty members)

Academic Board

(Dean and Department Heads)
Department Council

Every academic department has a department council. All the faculty members automatically become the members of the Department Council. The Department Council is presided over by the Director of the Department.

Now let us take into account the functions of these bodies briefly:

Function-Wise Organizational Structure of Yarmouk University
(Refer Chart-1)

As we have seen that the organizational function-wise structure has been divided into two main parts namely,

1. Academic organization structure
2. Administrative organization structure.

Both the structures have been sub-divided into different sections.

The Structure & Governance Body of the University: (Refer Charts 2 & 3)

The governance body of the University comprises of the following to carry out their respective functions:

1. Council of Higher Education:

   The Council of Higher Education approves the establishment of faculties and programs, reviews higher education policies, decides admission policy, and approves the university budgets.

2. The President:

   He is entrusted with the duties of co-ordinating the policies of the University and setting up plans and strategies to achieve the university goals. He is also in charge of implementing the decisions and by-laws made by the University Council: and tries to solve problems, and devise
solutions in cooperation with appropriate committees, bodies, and councils. He represents the University and presides over meetings of the University Council.

3. University Council:

University Council, which is the highest council in the University organizational structure, is in charge of suggesting students admission policy to the Council of Higher Education, and sets general policies & regulations that govern actions leading to the achievement of the university goals. It also regulates the university affairs, reviews the budget policies and programs, and evaluates implementation of general policies and by-laws.

4. The Vice-President:

Two vice-presidents are assigned to assist the President in handling affairs of the university. Duties and functional responsibilities have been assigned or delegated to these each in his domain.

a. The Vice-President for Academic Affairs: Hierarchically he is in charge of reviewing all academic affairs of colleges, students, scholarships, and promotion of faculties with the help of designated academic committees. All faculties and centers of academic nature report to the vice-president of academic affairs regarding issues, problems and policies of academic nature.

b. The Vice-President for Administrative & Financial Affairs: He is charged with managing administrative and financial matters in the university with the help of directors of Administration units and committees. His duties include preparing & formulating administrative and financial policies and strategies of the university and devising methods and solutions.
to the problems pertinent to finance and administration. His duties extend to supervising the implementation of financial decisions and dealing with appropriate committees (budget, planning, organization) and personnel. He is also in charge of the budget preparation committee and for allocating resources in cooperation with Deans who are the Heads of faculties and Heads of administrative departments and programs. All matters and issues of administration and financial matters are reported to him from various colleges and units in the university. In addition, he directs supervision of administrative and financial units in the university.

5. Assistants to the President:

The President has also two assistants: one is in charge of issues of supply and tenders, while the other is in charge of investment funds. The president's authority over such issues has been delegated to the Vice-President of Administrative Affairs, and they report to his office directly.

6. Deans Council

In addition to duties entrusted to it by the higher education laws, the council regulates the affairs of academic disciplines, approves curriculums and programs, and co-ordinates education policies in the University. The Deans' Council is also charged with the goal of development and enhancement of academic tasks and standards and review of policies and actions of disciplines pertaining to academic staff. Additionally, the Deans' Council develops and approves policies concerning students, researches, faculty recruitment, selection, promotion and scholarship policies.

Now let us study the Financial Structure.
The Financial Management Structure of Yarmouk University:
The Financial Management Structure of the University is as shown in the chart below:

Chart 4-4
Financial Management Structure in Yarmouk University

President

Assistant to the President for Financial Supplies Affairs

Vice President for Administrative Affairs

Finance Manager

Secretary Office

Clerical Office

Assistant to the Financial Manager for Collection of Revenue and Follow-Up Affairs

Revenue Section

Assistant to the Financial Manager for Expenditure and other Affairs

Specific Funds Section

Expenditures Section

Salaries & Social Security Section

Audit Section

Budget & General Account Section

The Finance Manager works under the Vice-President of the Administrative Affairs and he directly reports to him and he operates...
through six sections of (a) Audit (b) Expenditures (c) Revenues (d) Salaries & Social Security and (e) Specific Funds (f) Budget and General Accounts.

Responsibilities & Duties of the Finance Department

The department is charged with the management of all university funds & finance in accordance with the laws, by-laws, regulations and decisions made subsequent thereto. It is also charged with the development and implementation of the budget, plans, programs, and procedures related to financial issues and actions. The department is also responsible for taking the necessary precautionary measures and adopts adequate means of controlling and safe-guarding the university funds and financial register.

The department implements the financial regulations and decisions approved by the University and charged with the preparation and execution of the University draft budget and the financial accounts and keeping the books and registers.

The department prepares and analyses the financial and periodical reports which show financial trends in the University activities and reports and updates University officials on university accounts and situation. It produces a monthly report on financial position of the university, another report on expenditures and revenues every three months, and the annual financial report on budget situation.
Finance Committee:

The Finance Committee is made out of some members of the University Council who are appointed by the President. The committee deals with financial affairs and budget under the guidance of the President.

Role of Financial Management in Yarmouk University:

The success of Management of a University depends to a great extent on efficient and effective Financial Management system. Achievement of the goals and the objectives of the university involves financial component and so if funds are not provided in required amounts in time or if they are not efficiently and effectively utilized, the objectives and goals of the university cannot be satisfied. If the modern Financial Management techniques are applied, Financial Management can become more efficient and purpose-oriented. Thus the objectives of the University, General Management and Financial Management are inter-related and inter-dependent as shown below:

University is autonomous in many respects and broadly in Finance also. It is realized that there is necessity for exercising vigilance and discipline in financial matters and to be careful against unplanned expansion and we need to observe certain norms in our expenditure pattern too. There is no doubt about the fact that without strict financial management, there is the risk for the University of frequently running into large budget deficits.
Constraints of the University

The Financial Management of a university functions within constraints determined by:

(a) The goals and the objectives of the university.
(b) Organisational Structures.
(c) The Amount of available funds.
(d) Sources of Finance.

Yarmouk University being a public university, it is a non-profit making organisation which is completely devoted to the cause of higher education and research. Public universities do not raise their capital through issue of shares or debentures and their tuition fees are low and it is found politically difficult to increase them despite inflation and rising educational costs. In this situation, Yarmouk University and other public universities in Jordan depend much on external source of revenue which is not in their control. At present, self-revenues of Yarmouk University are limited and their expenditures are high resulting into chronic budget deficits which are rising year by year. At present, they are 20 per cent of total revenue and 17 per cent of total expenditures. So in these changed circumstances, there is no other alternative for them except reducing their recurrent expenditures and increasing self-revenues and using modern management techniques and adopting planning and programming budget system to achieve it.

Budgeting and Planning System of Yarmouk University

Budgeting

The Budget of a University is prepared in order to have effective utilization of funds so that the goals and objectives of the University are
realized in the most efficient manner possible. Thus budget is the most effective tool in the hands of Management for (i) procurement of funds, (ii) allocation of funds, (iii) control of funds, (iv) effective utilization of funds, (v) for assessing the financial condition of the university and (vi) for decision-making and policy-framing—all for the realization of the goals and objectives of the University.

But budget is the planning and programming for one year and it becomes meaningful when a broader prospective is taken and it is prepared as the part of planning for 5 or more years. Actually budgeting and planning go together. It is well said that the budget tends to become short-sighted when separated from planning and planning becomes a sterile exercise without budgeting. Budgeting and Planning are complementary to each other. Budget is meant for translating long-range planning into the annual budget format which specifies precise measures of inputs and their prices and the possible outputs within one year.

We believe that with the proper use of the modern scientific techniques of budgeting and planning, most of the financial problems of the public universities can be solved. It is therefore desirable to examine the prevailing budgeting and planning system of Yarmouk University.

For examining the budgetary system, it becomes necessary to be appraised of the conceptual framework of a budget and the budget system followed in the University.

Various types of budgeting system are possible like (i) Line-Item Budgeting, (ii) Zero-Base Budgeting, (iii) Programme-Budgeting, (iv) Performance Budgeting and (v) Planning, Programming and Budgeting System (PPBS).
Yarmouk University and other public universities in Jordan have been following the Line-Item Budgeting System. But it is a traditional budgeting system which is failing in the changed circumstances of heavy external and internal pressures. This is because the line-item budgeting system has got certain inherent defects which we lay bare in the following:

**Defects of the Line-Item Budgeting System**

1. Most of the budget items do not seek or require any justification, as they follow the past with some additions.
2. Once a programme has been financed, it is likely to continue indefinitely, as the past is its consideration and guide.
3. It provides fragmented historical cost data which are not useful for execution of programmes or their evaluation.
4. Reporting based on the Line-Item Budgeting System produces much less financial data which can be useful in planning, programming and evaluating university's activities.
5. Decisions about input-planning are made at the lower levels and move upward without proper consideration of the cost implied.
6. Operating procedures become policy-decisions. Thus purposes are not considered in a conscious fashion and the realisation of the objectives of the university are more due to chance rather than design.
7. It facilitates compromises, but at the same time, it encourages poor decision-making.
8. On the whole, it fails to deal with policy or real management issues and problems.

We believe that the Line-Item Budget System should be abandoned as early as possible, because it is incapable of solving the financial problems of Yarmouk University in the changed circumstances of heavy
resource crunch and in its place, Planning, Programming and Budgeting System should be adopted. In this system, there is detailed planning and programming for micro-levels as the part of Macro-entity planning, so that at each microlevel, revenues are made to meet expenditures fully or a substantial part of it. Here we do not discuss the full advantages of the PPBS, as we have done so in detail in the next chapter.

**The Planning Process**

It is very necessary for the University to prepare both long-term and short-term plans. But in doing so, it should take into account the external factors and internal pressures and thus devise plans for enhancing internal sources of revenue and evolve a planning framework and guidelines for recurrent expenditures and capital and developmental expenditures.

**The Department of Development and Planning**

In Yarmouk University, there is the Department of Development and Planning which does long and short-term planning for all the academic, administrative and technical activities of the University in the light of the objectives of the University and its rules and regulations. The department participates in the development, expansion, follow-up and evaluation of the main activities, programmes and projects of the University and in studying ways and means for the improvement of work at the University.

**The Department has got two directorates:**

(1) Directorate of Planning and (2) Directorate of Development.

The Directorate of planning has 2 two sections namely,

(a) Planning section;
The Directorate of Development has got 3 sections like:
(a) Development Section.
(b) Follow-Up Section.
(c) Administrative Organisation Section.

Planning Committee
There is constituted a planning committee from among the members of the University council. The Department of Development and Planning and the Planning Committee prepare the 5-year plan for the multi-farious Development of the University.

The Accounting and Auditing System of Yarmouk University.
The Accounting System of the University is of great importance in knowing the state of affairs of that University. It is the most significant part of financial management and provides information regarding the financial health of the University.

The accounts of any organisation and particularly those of the public university are expected to provide functional classification indicating the fund-wise classification of expenditure which may help us to analyse and interpret the financial data collected through record-keeping and book-keeping.

For examining the accounting system of any University, it is always rewarding to know the conceptual framework of its accounting procedures.

Four Building Blocks of the Accounting System of Yarmouk University
The following four types of accounting systems and procedures have been incorporated in the Accounting system of Yarmouk University:

(1) The Fund Accounting System.
(2) Double Entry System.
(3) Three Types of Classified Accounts.
(4) Cash basis (in Place of Accrual Basis)

Let us briefly clarify each system one by one.

(1) The Fund Accounting System.

Yarmouk University is a Public University and hence it is a not-for-profit organisation. In the units in the Public sector, the fund-accounting system is utilized and so generally in the not-for-profit organizations also, the fund-accounting system is resorted to. In Yarmouk University, the fund-accounting system has been adopted. In the accounting of a private sector, the entire firm or the company is the basic accounting and reporting unit, but in the fund accounting system, the fund is the basic accounting unit. This fund is designated as the accounting entity which is a system having a self-balancing set of accounts. Its main characteristics are that there is recording of all financial resources including cash, related liabilities and residual balances and charges.

For the purpose of doing some specific activities or for realizing some particular objectives, segregation is done so that each fund will have a set of self-balancing accounts.

In the Fund Accounting System, there is the requirement for fund balances.

When total expenditure exceeds total revenue, there is a deficit or a negative fund balance which has to be met in future by increasing revenue.
When total revenue is more than total expenditure, the Fund will have a surplus balance. But each fund is specially required to be balanced.

In this respect, the concept of fund-accounting cycle should be understood. The main objective in having fund accounting system is to see that all resources are used in accordance with authorised purposes.

Accounting records have to show data from budgetary authority for the items of transactions. There should be the provision for it in the budget and then alone, that particular transaction for a certain item can take place. Thus this cycle of fund authorisation and actual transaction for the item concerned, should be complete. This system is meant for control of transactions.

(2) Double Entry System.

In Yarmouk University, double entry bookkeeping system is adopted. In this system, for every credit, there is an equal debit and for every debit, there is equal credit. This is meant to maintain perfect balance at all times. This helps checking errors and avoiding pitfalls.

(3) Three Types of Classified Accounts

In Yarmouk University, three types of accounting procedures or sub-systems are used, namely

(i) Receipts and Payments Account,
(ii) Income (Revenue) and Expenditure Account,
and (iii) Final Accounts.

Let us briefly clarify each one.

(i) Receipts and Payments Account
The Receipts and the Payments Accounts represents the summary of actual receipts and payments of cash derived from the cash book for a specific period of time. All the receipts and payments of cash (during a given period of time) involving current account or capital account are included in the account. This account does not include any income or expenditure which is outstanding and not paid or not spent though the transaction might have already taken place on the credit base or cash may be in the pipeline.

Thus this system does not reveal the actual income and expenditure position of the public unit which has imbibed it.

In this system, credit transactions will be neglected. So, Income and Expenditure Account becomes necessary.

(ii) Income and Expenditure Account:

The Income and Expenditure Account includes all income earned during a given period of time, irrespective of that income is actually received or not and expenditure incurred, irrespective of actually paid or not. This system can give a true picture of the actual financial position of the public unit. But unfortunately, in Yarmouk University, this system is not fully followed, because in Yarmouk University, transactions are noted on the cash basis and not on the accrual basis. So all revenues are noted on the cash basis and hence they are noted when received and not accrual basis. But as regards some capital expenditures done on the contract basis or tender basis, Obligation Basis is adopted and so they call this system as Revenue and Expenditure Account System, though the whole of Revenue and Recurrent Expenditure and some part of capital expenditure are entered in the accounts on the cash basis when actually received or paid.
(iii) Final Accounts

Final Accounts are published at the end of the financial year in which the implementation of the provisions of the Budget is described and estimated and actual values of expenditure and revenue are given and variances between them are also given.

The divergence between the actual values of expenditure and revenue is also given and thereby deficit or surplus is described.

(4) Cash Basis

There are three prevailing methods as regards the basis of Accounting, namely (a) cash basis, (b) accrual basis and (c) Obligation basis.

There is the fourth one of modified cash-accrual basis. But we do not discuss it here. In Yarmouk University, in the majority of transactions, cash basis is adopted and in certain capital expenditures based on contracts or in case of tenders, a new method of obligation basis has been evolved. But let us briefly explain these three bases of accounting:

(a) Cash - Basis:

According to this method, changes in the books are noted when cash is actually received or paid. This is in contrast to the accrual basis in which income is noted when earned and expenditure is entered when incurred, irrespective of cash received or foregone in the same period. This gives a false picture of accounts and even the annual balance sheet cannot be prepared.
(b) Accrual Basis:

In this discussion of basis of accounting, the problem is when and at what stage to recognise the revenues, expenditures, transfers and liabilities. In the system of accrual basis, recording is done for revenues in the period when earned, for expenditures in the period incurred, for the assets in the period when purchased and for liabilities in the period when owed, irrespective of whether cash is received or not or cash is paid or not during that period of time.

Obligation Basis

As we have already seen that in Yarmouk University accounts, cash basis is used for revenues, recurrent expenditures and for most of the capital expenditures. But when there are tenders accepted for constructing buildings for the University or contracts signed for the purchase of high cost equipments, the construction of buildings may take time or the high cost equipments may also take time to come. In such cases, it becomes necessary to carry forward these accounts to future year or years. Here the cash basis system fails. So a way was found by introducing obligation base for such accounts.

According to this system, when tender is accepted or the contract signed, the concerned department gets the necessary amount of money reserved for this purpose from the University budget as per allotment and sanction for it in the budget. So even though no money is paid during the current year, it is at least reserved in the current year for the future payment when the equipment actually arrives. Though the amount may be actually paid in future when the benefit is received, it will be noted in the current year. This is obligation base system.

Let us now study the structure of University Accounts. Its chart is given below.
Structure of University Accounts

University Accounts

General Accounts
- Purchase Order
- Letters of Credit
- Advance Payments
- Banks
- Cash

Budget Accounts
- Expenditures
- Revenues

Dept Payments
- Recurrent Expenditures
- Salaries, Wages and Allowances
- Compensations and Insurance

Academic Research and Conference
- Academic Scholarship and Training
- Supplies & Maintenance
- Student Activities and Services
- Common & Public Expenditures
- Contributions
- Other

Developmental Expenditures

Public Services
- Buildings

Fees & Taxes
- Custom Taxes
- Additional Taxes
- Profit of Movable & Real Property
- Other Incomes
- Loans

Self Revenues
- University Tuitions
- Other Incomes
- Annul Govt Donation
- Periodical Donations

Laboratories
- Equipment
- Vehicles
- Other Expenditures

Other

III
University Accounts

As shown in the above chart, the University Accounts have been classified into two accounts: (1) Budget Accounts and (2) General Accounts.

(1) Budget Accounts

Budget Accounts are the most important part of university accounts. Budget Accounts are divided into (i) Revenues and (ii) Expenditures.

(i) Revenues

Revenues are sub-divided into 4 broad groups:

(A) Share-in Government Tax Revenue.
(B) Self-Revenues.
(C) Donations.

and (D) Loans.

(A) Share-in-Revenue from Fees & Taxes consists of the share in the following 2 sources of tax-revenue:

(a) custom taxes,
and (b) additional taxes.

(B) Self-Revenues consist of:

(a) Tuition fees.
(b) Income on Movable & Immovable Property.
(c) Other incomes.

(C) Loans and Donations

(a) Donations

(i) Annual Government donations.
(ii) Periodical donations.

(b) Loans from Banks or from internal funds.
(ii) Expenditures

Expenditures are divided into four parts:

(A) Recurrent Expenditures.

(B) Capital Expenditures.

(C) Developmental Expenditures.

and (D) Debt Payments

Developmental expenditure can be subsumed under capital expenditure (and it is actually so) and interest on debt can be included in recurrent expenditure and repayment of the principal amount may be included in capital expenditure. But here, they are presented as separate heads for the sake of convenience.

(A) Recurrent Expenditures.

Now recurrent expenditures consist of:

(a) Salaries, Wages and Allowances.

(b) Compensations and Insurance.

(c) Academic Research and Conferences.

(d) Academic Scholarships and Training.

(e) Student Activities and Services.

(f) Supplies and Maintenance.

(g) Common and Public Expenditures

(h) Contributions.

(i) Other Expenditures.

(B) Capital Expenditures.

They Consist of:
(a) Laboratories.
(b) Equipment.
(c) Books and Periodicals.
(d) Furniture.
(e) Vehicles.
(f) Other expenditures.

(C) Developmental Expenditures
They consist of
(a) Public Services (infra-structures)
(b) Buildings.

(D) Debt Payments
This expenditure is meant for repayment of debts.

Now we deal with General Accounts.

General Accounts
It is clear that the General Accounts are outside the Budget Accounts and that is why in the chart, they are shown as a separate category.

General Accounts have four sub-heads namely,
(A) Purchase orders.
(B) Letters of Credit.
(C) Advance Payments.
and (D) Banks.

It should be remembered here that they are simply control accounts.
Short-Comings of the Accounting System of Yarmouk University

The Accounting System followed in Yarmouk University depends on the Budget Accounts (and Allocations) and at the end of the year Final Accounts are prepared. But all the accounting operations are based on cash basis and obligation basis and hence the are recorded in the books on the cash basis due to which, many short comings appear which are briefly described below:

(1) These accounts do not reflect and identify the correct financial year in which expenditures and revenues might have taken place.

(2) They do not distinguish between recurrent expenditure and capital expenditure.

(3) They do not provide relevant and proper information which can be used to evaluate performance.

(4) Final Accounts do not reflect the results of the year in an accurate way.

Audit System in Yarmouk University

One cannot imagine an accounting system without the concommitant auditing system. Without the control and check provided by auditing system, accounts lose all value.

Auditing follows accounting in a not-for-profit organisation like a public University. Audit plays a vital role regarding the management of its finances and for the utilization of those finances for the aims and purposes for which they had been sanctioned and allotted. Thus audit provides code of conduct for all the departments. It is also a condition for the release of funds by the funding agencies. Preparation of financial accounts and their
auditing and reporting are statutory requirements, because auditing is necessary to verify the correctness and fairness of accounts.

In Yarmouk University, accounts have to pass through the check and control of four types of auditing systems namely, (1) Pre-audit (2) Internal audit, (3) Post-audit and (4) External audit.

(i) Pre-Audit:

In the Finance Department, there is the Audit section which does the pre-audit. This system is meant to check whether a certain amount of money to be spent to purchase a certain item, has been allotted in the budget for that particular item or not and whether in the same amount. All the purchase transactions in the university have to pass through this check of pre-auditing before money can be spent for purchase.

(ii) Internal - Audit

All the transactions done by the different departments and offices and their accounts are audited by the Financial and Administrative control office.

Administrative and Financial Control Office

The office was established in 1983 to supervise the University revenues, expenditures, assets and administrative decisions to make sure that financial measures are being soundly taken and to test the accuracy of the operations and the data related thereto and laid down in the various university departments books and registers:

(1) To determine how far they conform with the effective University Laws, by-Laws and regulations.
(2) To make sure that the Laws, by-Laws and regulations are soundly implemented and that administrative decisions are made and executed in accordance with these provisions of University Laws, by-Laws and regulations.

(3) The office also exercises the jurisdictions which ensure that university funds are properly disposed of and their records and accounts are correct. The information obtained by the office and the information resulting from its performance of its duties is treated as confidential. The office is directly responsible to the President.

(iii) Post-Audit:

Post-Audit is done by the audit section, by the Financial and Administrative control and by the Financial Control Bureau.

(iv) External Auditing:

External Auditing is done by the Financial Control Bureau. The Bureau is charged with the task of reviewing and auditing internally the University revenues, expenditures, assets and administrative decisions to make sure that financial measures are being soundly undertaken. In addition, it is charged with the tasks of checking and testing the accuracy of operations and data related to finance and the conformity of the actions of the various departments of the University, registers and books with University rules and regulations.

The office also exercises the jurisdiction which ensures that university funds are properly disposed of and their records and accounts are correctly maintained. Information obtained by office and also emerging from duties is treated confidentially.
Revenue Structure and Expenditure Pattern of Yarmouk University:

Sources of Revenue for Yarmouk University.

According to Article 7 of Yarmouk University Law no. 25 of 1985, the University resources shall be derived from:

a. The annual grant from the government and any fees imposed for the benefit of the university.
b. The University fees.
c. The revenue derived from the university's movable and non-movable property and the proceeds of its institutions, training centers and investment project which it may establish or participate there in.
d. The donations, subsidies, contributions, grants, bequests and the revenue derived from endowments assigned to the university.
e. Any other resources approved by the Board of Trustees.

The following chart shows the external and internal sources of revenue for Yarmouk University clearly:

<table>
<thead>
<tr>
<th>Sources of Revenue</th>
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</thead>
<tbody>
<tr>
<td><strong>External</strong></td>
</tr>
<tr>
<td>- Share in Govt.</td>
</tr>
<tr>
<td>- Endowments</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Internal</strong></td>
</tr>
<tr>
<td>- Donations</td>
</tr>
<tr>
<td>- Academic</td>
</tr>
<tr>
<td>- Non-Academic</td>
</tr>
</tbody>
</table>

- Tuition Fees
- Consultancy fees and fees of training courses
- Capital returns
- Model School Tuition Fees
- Interest Income

Chart 4.6 Sources of Income for the University are indicated below:
Revenue Sources:

The University revenues come from the following main sources:

1. Centrally collected taxes: the main revenue source for university is the "University" Taxes imposed governmentally on each single sale by individuals and corporations the country. The tax is collected centrally by the ministry of finance and distributed among the five semi-state universities in Jordan by the Council of Higher Education. The fund which comes from taxes is disbursed unequally between the five universities according to four unstated basic categories of weights based on (a) the number of students, (b) development needed, (c) budget totals and (d) new programs. The collected revenues then are deposited in the university accounts every three months.

2. Governments Subsidy (Fund): The subsidy fund source is usually provided as grants from the central government's budget. The amount of funds received varies among universities from year to year. No formal formula exists for the distribution of funds among universities, but the cabinet decides the funds on the basis of recommendation by the Higher Council for Education. The Ministry of Finance transfers the money every three months.

3. Loans: This source is an extraordinary source of revenues which is usually provided on an ad hoc basis by the central government or loans taken by the university from banks and guaranteed by the government.

4. Tuition Fees: It is the primary source of the university revenues and is the second largest proportion of income after taxes collected centrally by government. Students pay their tuition fees in cash for the credit hours they get registered every semester, in addition to the lump sum fees for services.
Other sources of fees by way of revenue come from the following heads:

1. Fees obtained for services and consultations provided to the community and private institutions.
2. Funded studies through the Jordanian Studies Center.
3. Fees on other local or regional institutions abroad.
4. Services provided by way of consultations and training.
5. Donations: The main source of donations comes from the private sector, in addition to donation from individuals or local, regional and international institutions to the University in terms of equipments, money, buildings or chairs.

Share in Tax-Revenue has dwindled to being about 42 per cent of total revenue in 1997 from its figure of 53 per cent in 1993. Share in Tax-Revenue and Government grants and donations are external sources of revenue while self-revenues including tuition fees and incomes from movable and immovable property of the university and other incomes represent the internal sources of revenue which constitute about 42 per cent of total revenue.

Pattern of Expenditure in Yarmouk University:

The funds available at the disposal of the university are to be utilised on various items and activities for the achievement of the goals and objectives of the university. Expenditure in Yarmouk University is classified under two main heads- (1) Recurring Expenditure and (2) Capital Expenditure.
Effectiveness and efficiency of management of University finances can be gauged to a great extent from its pattern of expenditure and the consequent financial health of the University as expressed through its budget deficit or budget surplus or balance between its total expenditure and total revenue.

In Yarmouk University, Recurrent Expenditure constitutes about 90 percent of total expenditure and so capital expenditure has got limited to 10 per cent of total expenditures.

This perverse pattern of expenditure does not allow sufficient amounts of money to be spent on laboratories, library, research, equipments and buildings which can adversely affect quality of Education.

Salaries of the Non-Academic and the Academic staff constitute about 74 per cent of Recurrent Expenditure and each of these two categories consumes about 37 per cent of Recurrent Expenditure.

Actually total salaries of the Non-Academic staff should be restricted to being half of the salaries of the Academic staff.
Analysis of the Budgets of Yarmouk University

From the point of view of Finance, storm was gathering since long for Yarmouk University, but it started taking concrete shape when it appeared in the form of deficit in the university budget in 1993 which went on increasing with the passage of time. Another startling feature was that 70 to 80 per cent of the university budget was spent only in paying salaries and allowances of the Non-Academic and the Academic staff and so very little was left for capital expenditure and for other equally necessary expenditures. Even in payment of salaries (& allowances), there started being some delay some time which was not a good sign.

Quality of education also started being affected. All these unauspicious features worried the authorities of the University.

But without the use of modern techniques of financial management, it becomes difficult to find out the places where the shoe actually pinches. The use of modern techniques evolves meaningful information from the raw data which can guide the policy makers to take informed decisions and effective measures.

So, we made use of the modern techniques of ratio analysis, common-size statement, growth indices and regression analysis in order to find out the crevices and weaknesses in the finances of Yarmouk University.

Ratio Analysis:

Here we make use of Ratio Analysis to exactly identify the weak spots in the university finances. The table containing these important ratios is given below.
Table 4-2

| Table No. 4  Some Important Ratios for the Budget Figures of Yanken University for the Years 1993 to 1997 |

<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Total Salaries &amp; Allowances</td>
<td>10311253 x 100 = 54%</td>
<td>11361251 x 100 = 61%</td>
<td>11778114 x 100 = 61%</td>
<td>11991001 x 100 = 63%</td>
<td>12167491 x 100 = 67%</td>
</tr>
<tr>
<td>Total Expenditure</td>
<td>19 101230</td>
<td>18776104</td>
<td>18776104</td>
<td>18776104</td>
<td>18776104</td>
</tr>
<tr>
<td>Total Salaries &amp; Allowances</td>
<td>10911253 x 100 = 71%</td>
<td>1316715 x 100 = 73%</td>
<td>1378920 x 100 = 73%</td>
<td>14091001 x 100 = 74%</td>
<td>14267491 x 100 = 74%</td>
</tr>
<tr>
<td>Recurrent Expenditure</td>
<td>11445803</td>
<td>1579555</td>
<td>1579555</td>
<td>1579555</td>
<td>1579555</td>
</tr>
<tr>
<td>Academic Staff Salaries &amp; Allowances</td>
<td>552775 x 100 = 39%</td>
<td>616131 x 100 = 33%</td>
<td>678920 x 100 = 32%</td>
<td>6549258 x 100 = 32%</td>
<td>6595209 x 100 = 33%</td>
</tr>
<tr>
<td>Total Expenditure</td>
<td>19108330</td>
<td>18776104</td>
<td>18776104</td>
<td>18776104</td>
<td>18776104</td>
</tr>
<tr>
<td>Academic Staff Salaries &amp; Allowances</td>
<td>6591773 x 100 = 39%</td>
<td>616131 x 100 = 33%</td>
<td>678920 x 100 = 32%</td>
<td>6549258 x 100 = 32%</td>
<td>6595209 x 100 = 33%</td>
</tr>
<tr>
<td>Recurrent Expenditure</td>
<td>14445803</td>
<td>1579555</td>
<td>1579555</td>
<td>1579555</td>
<td>1579555</td>
</tr>
<tr>
<td>Budget Deficit</td>
<td>2728881 x 100 = 13%</td>
<td>1874614 x 100 = 8%</td>
<td>287212 x 100 = 12%</td>
<td>2051603 x 100 = 11%</td>
<td>2007827 x 100 = 17%</td>
</tr>
<tr>
<td>Total Revenue</td>
<td>19108330</td>
<td>18776104</td>
<td>18776104</td>
<td>18776104</td>
<td>18776104</td>
</tr>
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</tr>
<tr>
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<td>19108330</td>
<td>18776104</td>
<td>18776104</td>
<td>18776104</td>
<td>18776104</td>
</tr>
<tr>
<td>Books &amp; Periodicals Expenditure</td>
<td>356662 x 100 = 1.86%</td>
<td>36437 x 100 = 1.35%</td>
<td>35129 x 100 = 1.16%</td>
<td>35015 x 100 = 1.38%</td>
<td>330792 x 100 = 1.89%</td>
</tr>
<tr>
<td>Total Expenditure</td>
<td>19108330</td>
<td>18776104</td>
<td>18776104</td>
<td>18776104</td>
<td>18776104</td>
</tr>
<tr>
<td>Tuition Fees</td>
<td>429351 x 100 = -30.33%</td>
<td>268714 x 100 = -31.83%</td>
<td>2756371 x 100 = -42.78%</td>
<td>3722654 x 100 = -44.47%</td>
<td>3722654 x 100 = -41.77%</td>
</tr>
<tr>
<td>Total Revenue</td>
<td>16909449</td>
<td>1729140</td>
<td>1972140</td>
<td>2109354</td>
<td>1972140</td>
</tr>
<tr>
<td>Self-Expenditure for Tuition Fees</td>
<td>429351 x 100 = -47.05%</td>
<td>268714 x 100 = -48.18%</td>
<td>2756371 x 100 = -45.08%</td>
<td>3722654 x 100 = -44.62%</td>
<td>3722654 x 100 = -48.08%</td>
</tr>
<tr>
<td>Total Revenue</td>
<td>16909449</td>
<td>1729140</td>
<td>1972140</td>
<td>2109354</td>
<td>1972140</td>
</tr>
<tr>
<td>Share in Tax Revenue</td>
<td>7692098 x 100 = 41.73%</td>
<td>8794358 x 100 = 50.38%</td>
<td>10194358 x 100 = 51.51%</td>
<td>11960354 x 100 = 54.41%</td>
<td>11960354 x 100 = 42.10%</td>
</tr>
<tr>
<td>Total Revenue</td>
<td>16909449</td>
<td>1729140</td>
<td>1972140</td>
<td>2109354</td>
<td>1972140</td>
</tr>
<tr>
<td>Recurrent Expenditure</td>
<td>14465803</td>
<td>1579555</td>
<td>1579555</td>
<td>1579555</td>
<td>1579555</td>
</tr>
<tr>
<td>Non-Academic Staff Services &amp; Allowances</td>
<td>4605454 x 100 = 24.35%</td>
<td>5319511 x 100 = 21.33%</td>
<td>520212 x 100 = 28.50%</td>
<td>5219258 x 100 = 28.50%</td>
<td>5219258 x 100 = 28.50%</td>
</tr>
<tr>
<td>Total Expenditure</td>
<td>19108330</td>
<td>18776104</td>
<td>18776104</td>
<td>18776104</td>
<td>18776104</td>
</tr>
<tr>
<td>Non-Academic Staff Services &amp; Allowances</td>
<td>4620245 x 100 = 32.14%</td>
<td>5312931 x 100 = 33.67%</td>
<td>520212 x 100 = 34.39%</td>
<td>5219258 x 100 = 32.57%</td>
<td>5219258 x 100 = 32.57%</td>
</tr>
<tr>
<td>Total Expenditure</td>
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<td>18776104</td>
<td>18776104</td>
<td>18776104</td>
<td>18776104</td>
</tr>
<tr>
<td>Number of Non-Academic Staff</td>
<td>916 x 100 = 3.12</td>
<td>1898 x 100 = 2.87</td>
<td>1896 x 100 = 2.75</td>
<td>1796 x 100 = 2.69</td>
<td>1796 x 100 = 2.69</td>
</tr>
<tr>
<td>No. of Academic Staff</td>
<td>613</td>
<td>661</td>
<td>668</td>
<td>664</td>
<td>663</td>
</tr>
<tr>
<td>Compensation and Insurance Expenditure</td>
<td>1784073 x 100 = 9%</td>
<td>2039384 x 100 = 10.86%</td>
<td>2041116 x 100 = 10.47%</td>
<td>2052456 x 100 = 10.64%</td>
<td>2052456 x 100 = 12.62%</td>
</tr>
<tr>
<td>Total Expenditure</td>
<td>19108330</td>
<td>18776104</td>
<td>18776104</td>
<td>18776104</td>
<td>18776104</td>
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<td>2052456 x 100 = 10.64%</td>
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<tr>
<td>Recurrent Expenditure</td>
<td>14465803</td>
<td>1579555</td>
<td>1579555</td>
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</table>

192
Let us first study the ratio of total salaries and Allowances to total expenditure in percentage terms and its growth over the period of 4 years ranging from 1993 to 1997.

### Ratio No. 1

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Total Salaries &amp; Allowances</td>
<td>54%</td>
<td>61%</td>
<td>61%</td>
<td>63%</td>
<td>67%</td>
</tr>
<tr>
<td>Total Expenditure</td>
<td></td>
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</tbody>
</table>

Here, we observe that the total salaries (and the allowances) of the non-Academic staff and the Academic staff constituted 54 per cent of the total expenditure of the University in 1993, but it went on increasing and it was at the level of 67 per cent in 1997. So 67 per cent of total budget was spent only to meet the salaries and allowances of the staff.

Now let us take into account the ratio of total salaries to recurrent expenditure in percentage terms over the same period and study its growth.

### Ratio No. 2

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</thead>
<tbody>
<tr>
<td>Total Salaries &amp; Allowances</td>
<td>71%</td>
<td>73%</td>
<td>73%</td>
<td>74%</td>
<td>74%</td>
</tr>
<tr>
<td>Recurrent Expenditure</td>
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</tbody>
</table>

Salaries and Allowances are the part of the current account and not of the capital account and so the ratio of Salaries and Allowances to Recurrent expenditure is more relevant. But the (1)st ratio in relation to total expenditure (which includes capital expenditure along with the
recurrent expenditure) highlights the fact that the salaries also eat away capital expenditure.

Now coming to the study of the (2)nd ratio, we find that the total salaries (and Allowances) constituted 71 per cent of Recurrent Expenditures of the University, but this ratio in percentage terms went on increasing and it was 74 per cent in the year 1997.

Another worrying feature is that only total salaries and allowances do not give the full idea of what the university spends for its total staff. In that connection, we have to take into account another category of “Compensation and Insurance Expenditure” also, as it constitutes expenditure for the university every year for the staff though the members of the academic and the non-academic staff may get the actual accumulated amount when they retire or leave the job. There are many sub-categories in this category (which we do not discuss here), but one thing is certain that they all imply expenditure on the part of the university for the welfare of the staff and their family members. So they must be actually added to the item of total salaries and allowances in order to estimate their true percentage contribution to total expenditure and to the recurrent expenditure of the University. So we state these two relevant ratios below:

### Ratio No. 3

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>Compensation &amp; Insurance Expenditure</td>
<td>9%</td>
<td>10.86%</td>
<td>10.47%</td>
<td>10.64%</td>
<td>12.62%</td>
</tr>
<tr>
<td>Total Expenditure</td>
<td></td>
<td></td>
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</tbody>
</table>


\[24\]
If we add the values in the Ratio No. 3 Table to the respective year-wise values in the Table for Ratio No. 1, we find that in the year 1993, total salaries and Allowances and Compensation and Insurance expenditure constituted 63 per cent (54.19) of the total expenditure of the University and in the year 1997, they increased to 79.62 per cent (67.12.62) of it.

In the same way, if we add the values of the table representing the ratio No. 4 to the respective year-wise values in the table of Ratio No. 2, we observe that total Salaries and Allowances and Compensation and Insurance expenditure were 83.33 percent of Recurrent Expenditure in 1993 and they increased to 87.95 per cent in 1997. This percentage of 87.95 is extremely high and unless it is lessened, it will be highly difficult to control the swelling budget deficits.

Now we would like to bifurcate the total Salaries and Allowances into Salaries and Allowances for the non-Academic staff and salaries and allowances for the Academic-staff and examine their ratios in relation to Recurrent Expenditure.

Here we have not added compensation and Insurance expenditure. These ratios are given below:

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Compensation &amp; Insurance Expenditure</td>
<td>12.33%</td>
<td>12.91%</td>
<td>12.57%</td>
<td>12.54%</td>
<td>13.95%</td>
</tr>
<tr>
<td>Recurrent Expenditure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Ratio No. 5

<table>
<thead>
<tr>
<th>Year</th>
<th>Salaries &amp; Allowances of the Academic Staff</th>
<th>Recurrent Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>39%</td>
<td>39%</td>
</tr>
<tr>
<td>1994</td>
<td>39%</td>
<td>39%</td>
</tr>
<tr>
<td>1995</td>
<td>38%</td>
<td>38%</td>
</tr>
<tr>
<td>1996</td>
<td>37%</td>
<td>37%</td>
</tr>
<tr>
<td>1997</td>
<td>37%</td>
<td>37%</td>
</tr>
</tbody>
</table>

Ratio No. 6

<table>
<thead>
<tr>
<th>Year</th>
<th>Salaries &amp; Allowances of the Non-Academic Staff</th>
<th>Recurrent Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>32.14%</td>
<td>32.14%</td>
</tr>
<tr>
<td>1994</td>
<td>33.67%</td>
<td>33.67%</td>
</tr>
<tr>
<td>1995</td>
<td>34.29%</td>
<td>34.29%</td>
</tr>
<tr>
<td>1996</td>
<td>36.05%</td>
<td>36.05%</td>
</tr>
<tr>
<td>1997</td>
<td>36.00%</td>
<td>36.00%</td>
</tr>
</tbody>
</table>

We observe from the table for Ratio No. 5 that the salaries (& allowances) of the Academic-staff which constituted 39 per cent of the Recurrent Expenditure of the university in 1993 they started falling as the ratio and were at 37 per cent of the Recurrent Expenditure in 1997.

Table for Ratio No. 6 reveals that the Salaries and Allowances of the Non-Academic staff which were 32.14 per cent of Recurrent Expenditure, in 1993, they started increasing as the ratio over the years and were 36 per cent of the Recurrent Expenditure in 1997. This was very near to the ratio for the Academic staff in 1997. In 1993, there was a difference of about 7 per cent between these ratios for the Academic staff and the non-Academic staff, but in 1997, there was hardly 1 per cent difference between the two ratios and if the above-mentioned trends of these divergent ratios continue (or are allowed to continue), the ratio for the Non-Academic staff will surpass the ratio for the Academic-staff and...
this excess will go on increasing with the passage of time which will be a startling phenomenon. This is because there has been over-staffing of the Non-Academic staff which enhances the Recurrent Expenditure and also its own ratio to Recurrent Expenditure.

Here it will be interesting to consider the proportion of the Non-Academic staff to the Academic staff so as to give a better idea of the over-staffing of the Non-Academic staff.

Ratio No. 7

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Non-Academic Staff</td>
<td>1016</td>
<td>1898</td>
<td>1836</td>
<td>1780</td>
<td>1784</td>
</tr>
<tr>
<td>No. of Academic Staff</td>
<td>613</td>
<td>661</td>
<td>668</td>
<td>664</td>
<td>661</td>
</tr>
<tr>
<td>Ratio</td>
<td>2.87</td>
<td>2.75</td>
<td>2.70</td>
<td>2.69</td>
<td></td>
</tr>
</tbody>
</table>

In 1993, per one member of the Academic staff, there were more than 3 members of the Non-Academic staff. For the Faculties of the subjects of Arts and Humanities 1 to 1 ratio and for the Faculties dealing with science subjects 1 to 1.5 ratio are considered proper while the prevailing average ratio was 3 to 1 which worried the university authorities.

So even when the strength of the Academic staff was somewhat increased as it was under-staffed, the University authorities reduced the strength of the Non-Academic staff gradually over the years from 1993 to 1997. This was because the budget deficit had raised its ugly head since the year 1993 and it had started rising year by year. But still the ratio of the Non-Academic staff to the Academic staff, in the year 1997, was 2.69 to which was very near to 3 to 1.
So the university requires some better formula to control the strength of the Non-Academic staff and to reduce it further in a systematic way so as to economise Recurrent Expenditure and thereby to reduce the budget deficit of Yarmouk University.

Now if we want to reduce budget deficit, we have to control expenditure and expand revenue, as it is excess of total expenditure over total revenue which defines budget deficit. Now total expenditure consists of Recurrent Expenditure and capital Expenditure. Actually, capital expenditure in Yarmouk University is languishing due to the increasing predominance of Recurrent Expenditure. So let us in this connection take into consideration the ratio of Recurrent Expenditure to Total Expenditure in percentage terms:

Ratio No. 8

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Recurrent Expenditure</td>
<td>75.70%</td>
<td>84.12%</td>
<td>83.28%</td>
<td>84.93%</td>
<td>90.48%</td>
</tr>
<tr>
<td>Total Expenditure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In the year 1993, Recurrent Expenditure constituted 75.70 per cent of total expenditure and so capital expenditure was naturally 24.30 per cent of the total expenditure. But the proportion of the Recurrent expenditure went on increasing with the lapse of time and it was at 90.48 per cent of the total expenditure in 1997. So naturally capital expenditure had diminished to 9.52 per cent of total expenditure from its previous level of 24.30 per cent in 1993. Thus Recurrent Expenditure was encroaching upon capital expenditure very badly. So when we talk about controlling
expenditure in order to reduce budget deficit, we mainly mean controlling Recurrent Expenditure, as capital Expenditure is already a sufferer.

As we have already seen that the budget deficit is a function of two variables- (i) Total Expenditure and (ii) Total Revenue which can be expressed in the form of a linear regression equation as follows:

\[ y = a + b_1 x_1 - b_2 x_2 + e \]

where

- \( y \) = budget deficit.
- \( x_1 \) = total expenditure
- \( x_2 \) = total revenue
- \( e \) = error term

Here we see in the equation that \( b_1 x_1 \) has got a positive (+) sign indicating thereby that as expenditure increases, budget deficit also has a tendency to increase when revenues are kept constant. Thus budget deficits and expenditures move in the same direction. The fall or rise in the total expenditure gives rise to a tendency for budget deficit also to fall or rise respectively and they have got a direct and positive relationship with each other, of course expenditure being an independent variable and budget deficit being a dependent variable.

But \( b_2 x_2 \) has got a negative sign (-) indicating thereby that total revenue has got an inverse relationship with budget deficit so that when total revenue increases, budget deficit has got a tendency to decrease and when total revenue decreases, budget deficit is likely to increase when expenditures are kept constant. Thus total revenue has got a negative relationship with budget deficit. When total expenditures and total revenues both are changing, the magnitude of budget deficits depends on the relative strength of revenues and expenditures and their direction.
Expenditures and Revenues both are independent variables and budget deficit is a dependent variable. Expenditures and Revenues do not affect each other, as the sources of revenue and causes of expenditure are different from one another and so there is no fear of committing the error of multicollinearity. So for reducing budget deficits, Management has to take steps to reduce expenditure and expand revenue.

We have already discussed the role of expenditures and the factors influencing it. So let us now discuss revenue and its main sources.

There are two main sources of Revenue for Yarmouk University as a public university—namely—(a) share in Tax-Revenue and (b) Self-Revenue (including tuition fees and incomes on movable and immovable property and other incomes).

So self-revenues are generated from within the university by the university itself while share in Tax Revenue is an outside source decided by the Government and then the Higher Education Council. So it is an external source while self-revenues can be deemed as emanating from the internal source. Thus there are two sources of revenue—(a) one is external source of revenue and (b) another is an internal source of revenue.

Now Government grants and donations are another external source of revenue, but it is not a regular source of revenue; it occasionally appears on the scene.

Internal donations and loans are an internal source of revenue, but its contribution is minor and it is not stable.

So we concentrate on Self-Revenue (as we have defined) and on share in Tax Revenue as internal and external sources of revenue respectively.
Let us first study share in Tax-Revenue. A fixed percentage of Total Revenue is reserved for distribution among all public universities by the Government and then according to a predetermined formula (as fixed by the Higher Education Council), this total share is distributed among public universities. Yarmouk University gets 21 per cent of this total share from Tax-Revenue.

Let us first analyse the contribution of share in Tax-Revenue to the total revenue of the Yarmouk University in percentage terms and study its movement over the period of 4 years from 1993 to 1997 when the budget deficit had appeared in 1993. So we have to study the movement of the Ratio of share in Tax Revenue to Total Revenue over these years. The table for it is given below:

### Ratio No. 9

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Share in Tax-Revenue</td>
<td>53.38%</td>
<td>50.29%</td>
<td>51.51%</td>
<td>54.41%</td>
<td>42.10%</td>
</tr>
<tr>
<td>Total Revenue</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Share in Tax Revenue constituted 53.38 percent of total revenue in 1993, but there were ups and downs in this ratio during other years 1994, 1995 and 1996, but in 1997, its tendency to fall asserted itself and it steadied itself at 42.10 percent of total revenue. Thus we see that there is a substantial fall in the contribution of this source to total revenue. Besides that, it is not a stable source of revenue, as the tax revenue itself depends on the condition of the economy which may be passing through the stage of depression or recession. So when the total tax revenue falls, share from it for all public universities also falls. This creates uncertainty.
as regards an important source of revenue for the university. The second source of uncertainty is the number of public universities in Jordan. When the number of Public universities is increased, the fixed share from tax revenue is distributed among a larger number of universities and so each university gets a lesser amount than what it could get previously; Recently two more public universities were added and hence the older universities got lesser amounts than before. These two factors create uncertainty regarding university share from tax revenue and no public organisation and specially the public university can thrive or develop on an unstable and dwindling source of revenue as the share in tax revenue has become, though still it is the largest source of revenue.

Now let us study the contribution of self-revenue (as broadly defined earlier) to total revenue. The following ratio highlights it:

<table>
<thead>
<tr>
<th>Ratio No. 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Revenues (including tuition fees etc.)</td>
</tr>
<tr>
<td>Total Revenue</td>
</tr>
</tbody>
</table>

We observe from the above table that for 4 years from 1993 to 1996, the percentage ratio was around 42 per cent. Only in the year 1997, it increased to 52.40 per cent and that was because in that year, the tuition fees were increased. This again lends strength to our plea that the tuition fees should be increased and at least, they should be linked with the cost.
of living index so that the contribution of self-revenue to total revenue may increase.

Self-revenue should be of such magnitude as to meet recurrent expenditure so that share in tax-revenue may be utilized to meet capital expenditure and fixed cost of the university. So on one hand, policy measures should be taken to control Recurrent Expenditure and on the other hand, means should be employed to enhance self-revenues on a permanent basis so as to meet Recurrent Expenditure in the full. The ratio of self-revenue to recurrent expenditure will be revealing in this respect:

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Revenues (including tuition fees etc.)</td>
<td>47.05%</td>
<td>48.15%</td>
<td>45.08%</td>
<td>44.62%</td>
<td>48.08%</td>
</tr>
<tr>
<td>Recurrent Expenditure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In 1993, self-revenues were covering about 47 per cent of recurrent expenditure of the University. In the year 1996, this coverage by self-revenues had come down to 44.62 per cent. But due to increase in tuition fees in 1997, the percentage of self-revenues to cover recurrent expenditure had increased to about 48 per cent. But the aim should be to cover it hundred per cent and this was a far cry from it. But if this could be done, then Self-Revenues and share from Tax-Revenue together would able to meet total expenditure completely and the budget deficit will disappear altogether. But we have not yet entered the Heaven of dreams and we are still on the solid earth of reality and we are worried about the increasing budget deficits of the University. So let us again come back to
the study of budget deficits and now as the percentage of total expenditure in order to understand its magnitude and proportion.

Ratio No. 12

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Budget Deficits</td>
<td>15%</td>
<td>8%</td>
<td>12%</td>
<td>11%</td>
<td>17%</td>
</tr>
<tr>
<td>Total Expenditure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In 1993, Budget deficits constituted 15 per cent of total expenditure, but in subsequent years up to 1996, the ratio had diminished, but in 1997, the ratio had increased to 17 per cent of total expenditure. Thus it was a growth of 2 per cent over and above the prevailing rate of 15 per cent in 1993. The same story is told by the ratio of budget deficits to total revenue. So it is better to study it now along with this preceding one.

Ratio No. 13

<table>
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<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Budget Deficits</td>
<td>17%</td>
<td>9%</td>
<td>14%</td>
<td>12%</td>
<td>20%</td>
</tr>
<tr>
<td>Total Revenue</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Budget deficit is the result of excess of total expenditure over total revenue. So in the situation of deficit in the budget, total revenue is less than total expenditure and so the denominator in the ratio no 13 being less than the denominator in the ratio no.12 and the numerator being the same in both, the ratios in the table for ratio no.13 will be correspondingly higher than the respective year-wise ratios given in the table for ratio no.12.
In the year 1993, percentage of budget deficits to total revenue was 17 per cent and there were ups and downs in this ratio during the subsequent years 1994, 1995 and 1996, but in 1997, again this ratio had surpassed its value in 1993 and reached the level of 20 per cent.

Both these ratios show that budget deficit of the university is high and its proportion has increased in 1997 in comparision with those in the previous years. Thus these ratios indicate that Yarmouk University is really in the grip of financial crisis and it is likely to grow worse with the passage of time if timely steps are not taken.
Common-Size Statement of Revenues and Expenditures of Yarmouk University

Table 3.4

Break-Up of Revenues and Expenditures of the Budgets of Yarmouk University for the Years 1993 to 1997

(in J.D.) (at current prices)

<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenues</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Revenues (=Tuition Fees + Profit of Movable &amp; Immovable Property + other incomes)</td>
<td>6807551</td>
<td>7606216</td>
<td>7256571</td>
<td>7222645</td>
<td>7919311</td>
</tr>
<tr>
<td>Share in Tax-Revenue</td>
<td>8706898</td>
<td>8696458</td>
<td>8737559</td>
<td>9253062</td>
<td>6363318</td>
</tr>
<tr>
<td>Government Donations and Grants + Internal Grants, loans, and Donations</td>
<td>795000</td>
<td>988816</td>
<td>966224</td>
<td>530000</td>
<td>830000</td>
</tr>
<tr>
<td><strong>Total Revenue</strong></td>
<td>16309449</td>
<td>17291490</td>
<td>16960354</td>
<td>17005707</td>
<td>15112629</td>
</tr>
<tr>
<td><strong>Expenditure</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recurrent Expenditure</td>
<td>14465803</td>
<td>15795515</td>
<td>16096516</td>
<td>16186602</td>
<td>16470613</td>
</tr>
<tr>
<td>Capital Expenditure</td>
<td>4642527</td>
<td>2980589</td>
<td>3231070</td>
<td>2870708</td>
<td>1732803</td>
</tr>
<tr>
<td><strong>Total Expenditure</strong></td>
<td>19108330</td>
<td>18776104</td>
<td>19327586</td>
<td>19057310</td>
<td>18203416</td>
</tr>
</tbody>
</table>

Table 4.4

Common-Size Statement of Revenues and Expenditures of Yarmouk University

in percentages for the Years 1993 to 1997

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenues</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Revenues</td>
<td>41.73</td>
<td>43.98</td>
<td>42.78</td>
<td>42.47</td>
<td>52.40</td>
</tr>
<tr>
<td>Share in Tax-Revenue</td>
<td>53.40</td>
<td>50.30</td>
<td>51.52</td>
<td>54.41</td>
<td>42.10</td>
</tr>
<tr>
<td>Government Donations and Grants + Internal Grants, loans and Donations</td>
<td>4.87</td>
<td>5.72</td>
<td>5.70</td>
<td>3.12</td>
<td>5.50</td>
</tr>
<tr>
<td><strong>Total Revenue</strong></td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td><strong>Expenditure</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recurrent Expenditure</td>
<td>75.70</td>
<td>84.12</td>
<td>83.28</td>
<td>84.94</td>
<td>90.48</td>
</tr>
<tr>
<td>Capital Expenditure</td>
<td>24.30</td>
<td>15.88</td>
<td>16.72</td>
<td>15.06</td>
<td>9.52</td>
</tr>
<tr>
<td><strong>Total Expenditure</strong></td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
Table No. 2 has been prepared on the basis of the contents of the Table No. 1.

When we study the different sources of revenue for Yarmouk University, their common-size statement becomes useful in highlighting the individual contribution of each source to total revenue in percentage terms.

**Self-Revenues**

As for example, from the perusal of the above common-size statement of revenues from different sources, it becomes clear that for four years from 1993 to 1996, self-revenues were fluctuating around about 42 per cent of total revenues. Self-revenues included tuition fees, but total self-revenues contributed only about 42 per cent. Only in the year 1997, as the tuition fees and also the number of the students increased, self-revenues contribution could increase and reach the level of 52.40 per cent of total revenue. This shows that the university should try to increase its revenue by such internal means of increasing tuition fees (at least linking it with the cost of living index) admitting a larger number of students and other some such means like acquiring endowments which may give reasonable regular income.

**Share in Tax-Revenue**

Yarmouk University's share in Tax-revenue constituted 53.40 per cent of its total revenue in 1993. But in the year 1997, it had come down to 42.10 per cent only. During this 5 year period also, there were ups and downs. But there is no doubt about it that its contribution to total revenue of the university is diminishing in percentage terms and it is very fluctuating and hence it is not a very reliable category of revenue.
This is due to two reasons:

(1) Due to prevalence of stagnation in the economy, the Government itself suffers from the paucity of resources and hence its capacity to help the public universities is limited.

(2) Secondly, as 2 new public universities were started, the total share from Government tax-revenue is distributed among 6 universities rather than among 4 Universities and so each university’s percentage share will be less than what it was previously. Percentage distribution of share from tax-revenue for Yarmouk University was 21 per cent in 1996.

The Government should have some better and stable principle of fixing up total share for public universities and then for distribution among individual universities.

Government Donations and Grants and Internal Grants,

Loans and Donations:

This source contributes a very small percentage of total revenue. It has fluctuated around 5 per cent. In 1996, it had gone down to 3.12 per cent only. It is a very insignificant source of revenue and it is like a stopgap arrangement and hence nothing much can be hoped from it.

So the chief sources of revenue for Yarmouk University are only two-namely (1) share in tax revenue and (2) self-revenue including tuition fees. But we have observed that the contribution of share in tax-revenue is falling and it is not a steady source of revenue. Also tuition fees constitute now a major part of self-revenue and contribution of other sources to self-revenue is meagre. So tuition fees must be increased and they also should be indexed with the cost of living index. This also highlights the necessity
of developing other fresh sources of self-revenue if the university is to come out of the stalemate of chronic and increasing budget deficits.

Recurrent Expenditure and Capital Expenditure

When we study the common-size statement regarding recurrent expenditure and capital expenditure as given in the above Table, we find that recurrent expenditure consisted of more than 90 per cent of total expenditure in 1997, though it was 76 per cent in 1993. Thus the percentage of recurrent expenditure in total expenditure has been rapidly increasing and consequently, the share for capital expenditure is fast diminishing and it stood at less than 10 per cent in 1997 though it was about 24 per cent in 1993.

So there is the need to control recurrent expenditure. At other place in this chapter, we are going to isolate the main factor or factors that have been contributing to the rising percentage of recurrent expenditures. Here we simply point out to the consequences of its rising crescendo so that the capital projects of the university and the development of its infrastructure may not suffer. Fall in capital expenditure will imply that laboratories, library, research, conferences and seminars, equipments, buildings and other academic and para-academic infrastructural facilities will have to suffer which will have on adverse impact on the quality of education in the University.
Growth Indices of Revenues and Expenditures of
Yarmouk University
Table 4.5
Growth Indices of Revenues, Expenditures and Budget Deficit of Yarmouk
University for the Years 1993 to 1997
(at Current prices)

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Revenues (UK)</td>
<td>100</td>
<td>111.73</td>
<td>106.59</td>
<td>106.09</td>
<td>116.33</td>
<td>4.08</td>
</tr>
<tr>
<td>Share in Tax-Revenue (H)</td>
<td>100</td>
<td>99.88</td>
<td>100.75</td>
<td>106.27</td>
<td>73.08</td>
<td>-6.73</td>
</tr>
<tr>
<td>Government Donations and Grants + Internal grants, loans &amp; donations</td>
<td>100</td>
<td>124.77</td>
<td>121.53</td>
<td>66.66</td>
<td>104.40</td>
<td>11.10</td>
</tr>
<tr>
<td>Total Revenue</td>
<td>100</td>
<td>111.99</td>
<td>109.49</td>
<td>93.00</td>
<td>97.93</td>
<td>-0.517</td>
</tr>
<tr>
<td>Expenditure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recurrent Expenditure</td>
<td>100</td>
<td>109.19</td>
<td>111.27</td>
<td>111.89</td>
<td>113.85</td>
<td>3.46</td>
</tr>
<tr>
<td>Capital Expenditure</td>
<td>100</td>
<td>64.20</td>
<td>69.59</td>
<td>61.83</td>
<td>37.32</td>
<td>-15.67</td>
</tr>
<tr>
<td>Total Expenditure</td>
<td>100</td>
<td>98.26</td>
<td>101.14</td>
<td>99.73</td>
<td>95.26</td>
<td>-1.18</td>
</tr>
<tr>
<td>Budget Deficit</td>
<td>100</td>
<td>53.04</td>
<td>84.57</td>
<td>73.30</td>
<td>110.42</td>
<td>2.60</td>
</tr>
</tbody>
</table>

Table No. 4.5 has been developed on the basis of the data of the Table No. 4.3.

Growth indices move in an horizontal way in contrast to the items in the common-size statement which move in a vertical fashion. In the common-size statement, each source of revenue and each type of expenditure reflected its individual contribution to the total. But in the table for growth indices, the growth of revenue from each source of it or growth of expenditure of each type over a period of years is indicated by taking the values in the beginning year i.e 1993 as 100 and expressing values in other years over values in the base year in percentage terms. In
the last column, Mean Growth Rate is given which is the average of the percentage growth rates of the years 1994, 1995, 1996 and 1997. Let us now analyse the source of revenue one by one and then we shall take into account the growth indices pertaining to expenditure.

Revenue Growth Indices:

Self-Revenues

In 1994, the growth rate of self-revenues was 11.73 per cent over that in 1993. But in 1995, they diminished and were hovering around about 106 percent which shows a negative growth rate of 5.14 per cent. In 1996, it was negative. But in 1997, the growth index increased to 116.33. This is a high increase and that was due to increase in tuition fees for the students and increase in the number of students also in that year. So if we take into account the mean growth rate for all the 4 years, it is found to be 4.08, but if we do not take into consideration the last exceptional year 1997, the mean growth rate for the remaining years is found to be 2.03 per cent (not given in the table) only. Thus the average growth rate of self-revenue is found to be low which should in fact, be high if the budget deficit of the Yarmouk University is to be lessened and ultimately eliminated.

Share in Tax-Revenue

The Government of Jordan has earmarked certain taxes from which a certain fixed percentage of tax revenue is reserved for distribution among public universities and then that total part is distributed among public universities according to a certain predetermined formula, due to which Yarmouk University gets 21 per cent of it while Jordanian University gets
29 percent, JUST 24 percent, MU'TA 16 percent and Al-Hashamiya University gets 10 percent.

Yarmouk University's share in tax-revenue either diminished or increased very little during these years, but in 1997 there was a steep fall of about 33 per cent and the mean growth rate for all these 5 years starting from 1993 to 1997, was found to be negative. It was -6.73.

On the other hand, University expenditure has been rapidly increasing while the source of share in tax revenue is found to be not only stagnant, but stale. As we have seen, the Government has its own genuine limitations and so this situation emphasizes the need for developing the internal sources of revenue.

**Government Grants and Internal Grants and Loans and Donations**

This source's percentage contribution to total revenue is very less as we have noted it while discussing the common-size statement.

Its mean growth rate also is found to be very low at the level of 1.10 percent during these 4 years as evidenced from the above table of growth indices. Also it is a very fluctuating source, as in the year 1996, there was a fall of about 55 per cent in its growth rate. Thus it is an insignificant source of law reliability.

**Total Revenue**

All the traditional sources of revenue for the University had become stale and so the mean growth rate of total revenue was also found to be negative at the level of -0.517.
Recurrent Expenditure

Now let us try to understand the growth indices of Recurrent Expenditure as specially reflected in its mean growth rate for these 5 years. Its growth indices show a continuous rise in Recurrent expenditure and its average growth rate as found to be 3.46 per cent. It is a high percentage rate, particularly in the context of a negative mean growth rate of total revenue.

Here we are not touching the factors responsible for creating a continuous rise at a substantial rate in Recurrent expenditure, as we have done so in detail in the other part of this chapter.

Capital Expenditure

Growth index of capital expenditure for the year 1997 indicated that there was a steep fall of about 63 percent in comparison with its value in 1993.

Shocking thing was that its mean growth rate was found to be negative at a very high level of -15.67 per cent for 4 years. Due to steep decline in the proportion of capital expenditure, the academic infrastructure and the laboratories, research and the equipment and the construction of buildings suffer tremendously which bid a bad omen for the quality of education in Yarmouk University.

Budget Deficit

Deficits in the Budget of Yarmouk University started from the year 1993, but in 1994, it diminished by about 47 per cent due to increase in tuition fees and rise in the number of students and on account of a good increase in Government grants and internal donations and a substantial rise in other revenues which all enhanced total revenues appreciably and
thereby diminished the budget deficit. But in the year 1995, again there was a substantial rise of about 32 per cent in the budget deficit. Then in the year 1996, there was a slight fall in the budget deficit. But in the year 1997, again there was a steep rise in the budget deficit and the growth index was at the level of 110.42 per cent in comparison with the base year value of 100. Despite some ups and downs in the magnitude of the budget deficit, its mean growth rate was found to be 2.60 per cent which shows that now budget deficit and its increasing trend has almost become a permanent feature of the state of finances of Yarmouk University.

Regression Analysis for the Diagnosis of the Budget Deficits of Yarmouk University

As we have already observed that the budget deficit has become now almost a permanent feature of the finances of Yarmouk University since 1993 and it does not show any sign of retreat and is likely to become ominous in future if some concrete steps are not taken to mend the affairs in its financial management.

Deficit and that also chronic deficit is a sign of weakness, weakness in financial management of the resources of the University, of which higher management should take note of, before it is too late.

This chronic budget deficit is the very definition of financial crisis from which the University is suffering now.

But what is a deficit? It is an excess of Expenditure over Revenue. It is the fact of the University spending more than its means. It is the sign that expenditure has gone out of control and sources of revenue have become stagnant for the University.
But what are the factors that have made expenditures uncontrollable and revenues stagnant?

Let us first talk about expenditures. Salaries and allowances of the Non-Academic staff and the Academic staff consume about 75 per cent of Recurrent Expenditure and 67 per cent of total expenditure of the University. Actually there has been an undue expansion of the Non-Academic staff in the University and the University spends 36 per cent of its Recurrent Expenditure and about 33 per cent of its total expenditure for their salaries. Of course, these ratios for the Academic staff are 37 per cent and 33 per cent respectively. Thus both are almost equal. This should never happen. Despite great differences in their salaries, if they are equal in consumption of expenditures, then it means that the strength of the Non-Academic staff is very high in number and they have almost become white elephants. This is disguised unemployment and so if a reasonable number of them are removed or are not further increased, work and efficiency in the University will not suffer. Such a high number of the Non-Academic staff is not functionally required. The University finds it difficult to get rid of their excess and so its recurrent expenditure and total expenditure remain high which ultimately lead to budget deficit.

So here we would like to make use of Regression Analysis in order to show close relationship between certain constituent variables of the Budget of Yarmouk University. Relevant data and regression equations are given below:
Table 4.6
Expenditures, Revenues and Budget Deficit of Yarmouk University
for the Years 1993 to 1997. (in J.D.)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Recurrent Expenditure</td>
<td>14465803</td>
<td>15795515</td>
<td>16096516</td>
<td>16186602</td>
<td>16470613</td>
</tr>
<tr>
<td>Total Salaries &amp; Allowances of the Non-Academic Staff</td>
<td>4650454</td>
<td>5319693</td>
<td>5520212</td>
<td>5835667</td>
<td>5930420</td>
</tr>
<tr>
<td>Total Revenue</td>
<td>16309449</td>
<td>17291490</td>
<td>16960354</td>
<td>17005707</td>
<td>15112629</td>
</tr>
<tr>
<td>University’s Share in Tax Revenue</td>
<td>8706898</td>
<td>8696458</td>
<td>8737559</td>
<td>9253062</td>
<td>6363318</td>
</tr>
<tr>
<td>Budget Deficit</td>
<td>2798881</td>
<td>1484614</td>
<td>2367232</td>
<td>2051603</td>
<td>3090787</td>
</tr>
</tbody>
</table>

Linear Regression Equations

1) \( y_1 = a_1 + b_1 x_1 + e_1 \)
\( \text{where } x_1 = \text{Total salaries (\& Allowances) of the Non-Academic staff} \)
\( y_1 = \text{Recurrent Expenditure} \)
\( e_1 = \text{Error term} \)

2) \( y_2 = a_2 + b_2 x_2 + e_2 \)
\( \text{where } x_2 = \text{University’s share in Tax-Revenue} \)
\( y_2 = \text{Total Revenue} \)
\( e_2 = \text{Error term} \)

3) \( y_3 = a_3 - b_3 x_2 + e_3 \)
\( \text{where } x_2 = \text{University’s share in Tax-Revenue} \)
\( y_3 = \text{Budget deficit} \)
\( e_3 = \text{Error term} \)

Let us examine the results of these equations in the light of data one by one. Salaries of the Non-Academic Staff as the Cause of Excessive Recurrent Expenditure. So, we have regressed Recurrent Expenditure on
the total salaries and allowances of the Non-Academic staff, as given below:

(1) \[ y_t = a_1 + B_1 x_t + e_t \]

where \( x_t = \) Total salaries (\& Allowances) of the Non-Academic staff
\( y_t = \) Recurrent Expenditure
\( e_t = \) Error term

Data for 5 years starting from 1993 to 1997 was operated upon the computer to verify the validity of the hypothesis as adumbrated in the above linear regression equation.

Its R2 indicating the degree of closeness of relationship between the two was found to be 94.7 per cent at 1 per cent significance level. It substantially verified the validity of our hypothesis that the cause of swelling Recurrent Expenditure was undue proliferation of the strength of the Non-Academic Staff.

Now, let us come to the topic of revenue. As we have seen before also, there are two major sources of revenue for the university-namely (1) share in Tax-Revenue and (2) Self-Revenues.

Share in Tax-Revenue has naturally got a direct relationship with total revenue. But this source of revenue is so important for the university that as share in tax-revenue diminishes, total revenue also diminishes appreciably and when share in tax revenue increases, total revenue also rises substantially. This is external dependence of the University which we wanted to measure and verify its high degree of close inter relationship.

**Total Revenue's Dependence on Share in Tax-Revenue**

So we worked with the following linear regression equation:
(2) \[ y_2 = a_2 + b_2x_2 + c_2 \]

where \( x_2 \) = University’s share in Tax-Revenue

\( y_2 \) = Total Revenue

\( c_2 \) = Error term

The computer showed very good result. \( R^2 \) was found to be very high at the level of 82.3 per cent at 1 per cent significance level. This showed that the university’s total revenues were a direct function of share in Government tax-revenue which defined solid external dependence. In fact, the University should evolve internal strength and develop the source of self-revenue rather than dance according to the tunes of Tax-Revenue.

When University’s share in tax revenue diminished, its total revenue diminished and led to greater excess of expenditure over revenue thus giving rise to a higher budget deficit. So we wanted to examine the effect of changes in the university’s share of Tax-Revenue on the deficit of the University’s budget directly.

**Budget Deficit Inversely Related with Share in Tax Revenue**

So we regressed budget deficit on share in Tax Revenue in the form of the following linear regression equation:

(3) \[ y_3 = a_3 - b_3x_2 + c_3 \]

where \( x_2 \) = University’s share in Tax-Revenue

\( y_3 \) = Budget deficit.

\( c_3 \) = Error term
It implied a negative relationship which means that as the share in Tax-Revenue diminished, budget deficit increased and as the share in Tax-Revenue increased, budget deficit diminished.

The result was good and the computer gave $R^2$ to be 42.98 per cent which was significant at 5 per cent level. Of course, the value of $R^2$ is not very high, but it is found to be reasonably good, thus supporting strength to the validity of our hypothesis that the budget deficit depends inversely on University's share in Tax Revenue. Thus they have got the inverse i.e. negative relationship, the share in Tax-Revenue being the independent and the budget deficit being the dependent variable.
Analysis of Cost Per Student:

The cost of education, specially of higher education is of great importance to policy makers and planners.

We have been insisting from the beginning for filling in the information gaps so as to enable the top Management of the University to take the right decisions regarding policy measures to minimise the cost and make the best possible use of the existing resources.

In this respect, it is essential to take into account the Faculty-Wise cost per student. So we took the sum total of Direct and Indirect costs in each Faculty and divided it by the total number of the students in that respective faculty and arrived at the total cost per student in each Faculty. This was done for each Faculty separately for 5 years from 1993 to 1997. These results are enumerated in the Table given below:
In the above table, there are five columns for each year for each faculty. In the (1)st column, Indirect costs are given which may be compared broadly with fixed costs though there are some differences between the two. In the (2)nd column, Direct costs are given which are similar to variable costs though there are some meaningful differences between them. In the (3)rd column, the total of Indirect and Direct costs is given. In the (4)th column, the number of students is represented and the (5)th column shows the total cost per student in the respective Faculty. Now it is obvious that for us, only (4)th and (5)th columns are important. (5)th column indicates the total cost per student, the movement of which we want to study over a period of 5 years. But as there is some relationship between the number of students and the total cost per student, we have to take the (4)th column (indicating the number of the students) also into account along with the (5)th column which shows the total cost per student.

It seems that there are two factors which affect the Direct costs in the short-period and Indirect costs in the long-period - (a) one is inflation and (b) another is the number of the students. Inflation increases the costs all around, though the degree of inflation is less in Jordan at present, but was high in the past. It is observed from the data given in the table that the change in the number of students affects the total cost less than proportionately and so when the number of the students increases, the cost per student generally falls and when the number of the students decreases, generally the cost per student increases, though there are minor exceptions.
# Table No. 4-7

Faculty-Wise / Fixed cost, Variable Direct Cost, Total Cost and Cost (in J.D.) Per Student for the Years 1993 to 1997

<table>
<thead>
<tr>
<th>Year</th>
<th>1993</th>
<th>1994</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>Faculty</td>
<td>Indirect cost</td>
<td>Direct cost</td>
</tr>
<tr>
<td>Science</td>
<td>2022582</td>
<td>1795561</td>
</tr>
<tr>
<td>Arts</td>
<td>2557433</td>
<td>1672929</td>
</tr>
<tr>
<td>Education &amp; Fine Arts</td>
<td>1814967</td>
<td>945248</td>
</tr>
<tr>
<td>Economics &amp; Sciences</td>
<td>2141302</td>
<td>789195</td>
</tr>
<tr>
<td>Applied Engineering</td>
<td>580182</td>
<td>411343</td>
</tr>
<tr>
<td>Sharia &amp; Islamic Studies</td>
<td>666449</td>
<td>264800</td>
</tr>
<tr>
<td>Physical Education</td>
<td>277435</td>
<td>160834</td>
</tr>
<tr>
<td>Archaeology &amp; Anthropology</td>
<td>150789</td>
<td>258837</td>
</tr>
</tbody>
</table>

Cont. Table No. 4-7

Faculty-Wise / Fixed cost, Variable Direct Cost, Total Cost and Cost (in J.D.) Per Student for the Years 1993 to 1997

<table>
<thead>
<tr>
<th>Year</th>
<th>1995</th>
<th>1996</th>
<th>1997</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>Faculty</td>
<td>Indirect cost</td>
<td>Direct cost</td>
<td>Total cost</td>
</tr>
<tr>
<td>Science</td>
<td>1692774</td>
<td>2175134</td>
<td>3872908</td>
</tr>
<tr>
<td>Arts</td>
<td>3771499</td>
<td>2802771</td>
<td>6574271</td>
</tr>
<tr>
<td>Education &amp; Fine Arts</td>
<td>1898438</td>
<td>1554786</td>
<td>3453222</td>
</tr>
<tr>
<td>Economics &amp; Sciences</td>
<td>1179260</td>
<td>988910</td>
<td>2168170</td>
</tr>
<tr>
<td>Applied Engineering</td>
<td>308650</td>
<td>578934</td>
<td>887584</td>
</tr>
<tr>
<td>Sharia &amp; Islamic Studies</td>
<td>649304</td>
<td>407270</td>
<td>1056574</td>
</tr>
<tr>
<td>Physical Education</td>
<td>279426</td>
<td>308909</td>
<td>688335</td>
</tr>
</tbody>
</table>
The table also brings into bold relief the Faculties where the cost per student is very high and where it is increasing rapidly with the passage of time.

Let us now study the cost per student in each Faculty one by one.

1- Faculty of Science:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost Per Student in J.D.</td>
<td>1253</td>
<td>1452</td>
<td>1589</td>
<td>1859</td>
<td>2306</td>
</tr>
<tr>
<td>No. of Students</td>
<td>3047</td>
<td>2771</td>
<td>2438</td>
<td>2127</td>
<td>1990</td>
</tr>
</tbody>
</table>

In each year of our study, we find the cost per student to be higher than its value in the previous year. Here, we observe the inverse relationship between the cost per student and the total number of students. As the number of the students was decreasing from 1993 through 1997, the cost per student was increasing. So, to arrest the rise in the cost per student, the Faculty of science and the university should try to increase the number of the students in the science Faculty or increase the tuition fees to an extent which does not result into the fall in the number of students. If this is done it will help in minimizing the cost per student.

Now let us study the pattern of cost per student in the Arts Faculty.

2. Faculty of Arts

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost Per Student in J.D.</td>
<td>1006</td>
<td>1089</td>
<td>1095</td>
<td>1424</td>
<td>1582</td>
</tr>
<tr>
<td>No. of Students</td>
<td>4202</td>
<td>4260</td>
<td>3862</td>
<td>3425</td>
<td>3409</td>
</tr>
</tbody>
</table>
We observe that cost per student has increased all along the years from 1993 to 1997.

When we study the trend of the number of the students, we find that it is decreasing all along the line except in the year 1994 when it increased by 58 students over the number of the students in the previous year 1993. Otherwise, there is found to be an inverse relationship between the number of the students and the cost per student. As the number of the students decreases, cost per student increases. In 1993, when the number of the students was 4202, the cost per student was 1006 J.D., but in 1997, when the number of the students diminished to 3409, the cost per student had soared to 1582 J.D.

It is obvious that cost per student in science Faculty will be higher than cost per student in Arts Faculty, as there will be cost of laboratories and other materials used in the laboratories in the science Faculty while such facilities and expenditures are not required in the Arts Faculty.

But the inverse relationship between the number of students and the cost per student suggests that efforts should be made to increase the number of students in the Arts Faculty so as to bring down the cost per student or at least to prevent its increase in future.

Now we study the situation in the Faculty of Education and Fine Arts.

3. Faculty of Education and Fine Arts:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost Per Student in J.D.</td>
<td>978</td>
<td>958</td>
<td>846</td>
<td>1105</td>
<td>1265</td>
</tr>
<tr>
<td>No. of Students</td>
<td>2822</td>
<td>3260</td>
<td>3566</td>
<td>3564</td>
<td>3809</td>
</tr>
</tbody>
</table>
From 1993 to 1995, cost per student was falling, as the number of the students was increasing during these years. In the year 1996, there was the diminution of only 2 students over its number in 1995 and thus we may say that the number of the students was almost the same in 1996 as in 1995, but still the cost per student had increased to 1105 in 1996 from 846 in 1995. In the year 1997, there was an increase of 245 students over its number in 1996, but still contrary to our expectations, cost per student in 1997 increased to 1265 from 1105 in 1996. That shows that in the years 1996 and 1997, some other cost-increasing factors may be active in the Faculty of Education & Fine Arts. But this does not affect the long-term inverse relationship between the number of the students and the cost per student and so our suggestion for this Faculty to endeavour to increase the number of students stands as ever.

Now let us analyse the state of affairs in the Faculty of Economics and Administrative Sciences.

4. Faculty of Economics & Administrative Sciences

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost Per Student in J.D.</td>
<td>826</td>
<td>894</td>
<td>839</td>
<td>1163</td>
<td>1347</td>
</tr>
<tr>
<td>No. of Students</td>
<td>3545</td>
<td>3738</td>
<td>3331</td>
<td>2850</td>
<td>2560</td>
</tr>
</tbody>
</table>

Barring the year 1994 and 1995 when the behaviour of cost per student was erratic, the inverse relationship between the number of the students and the cost per student is corroborated if we compare the cost per student in 1993 with that in 1996 and in 1997. The cost per student which was 826 J.D. in 1993 when the number of students was 3545, increased to 1163 J.D. in 1996 and 1347 J.D. in 1997 when the number of students fell to 2850 in 1996 and to 2560 in 1997. So the suggestion will
remain the same to enhance the number of the students in the Faculty so as to control the cost per student.

Now we come to the study of cost per student in the Faculty of Applied Engineering.

5. Faculty of Applied Engineering:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost Per Student in J.D.</td>
<td>1303</td>
<td>1403</td>
<td>1432</td>
<td>1643</td>
<td>1846</td>
</tr>
<tr>
<td>No. of Students</td>
<td>761</td>
<td>778</td>
<td>797</td>
<td>810</td>
<td>818</td>
</tr>
</tbody>
</table>

Here the inverse relationship between cost per student and the number of the students is not found to prevail. On the contrary, we observe the direct relationship between the two, as we find that as the number of students increases, cost per student also increases. This may be due to more than proportionate increase in the cost when the number of the students increases.

Now we study the cost pattern in Sharia & Islamic Studies.

6. Sharia & Islamic Studies:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost Per Student in J.D.</td>
<td>873</td>
<td>960</td>
<td>870</td>
<td>1108</td>
<td>1195</td>
</tr>
<tr>
<td>No. of Students</td>
<td>997</td>
<td>1147</td>
<td>1237</td>
<td>1228</td>
<td>1359</td>
</tr>
</tbody>
</table>

It is difficult to articulate any precise direct or inverse relationship between the cost per student and the number of students for this Faculty. But for 3 years namely 1994, 1995 and 1996, we find the inverse relationship between the number of the students and the cost per student to
be true as when the number of the students increased to 1237 in 1995 from
it being 1147 in 1994, the cost per student also diminished to 870 from it
being 960 in 1994. Again when the number of the students decreased to
1228 in 1996 from its being 1237 in 1995, the cost per student increased to
1108 in 1996 from its being 870 in 1995. In these two cases, we observe
the inverse relationship between the number of the students and the cost
per student. In other years, we find both the variables increasing together,
but the data is not sufficient to establish the direct relationship between the
two.

This Faculty being a new Faculty, fixed cost or the Indirect cost
was increasing irrespective of the prevailing number of the students and so
in some years, cost continued to rise even though the number of the
students had increased.

So we suggest that, from the long-run point of View, the number of
the students in this Faculty should be increased in order to control the cost
per student.

Now we approach the Faculty of Physical Education.

7. Faculty of Physical Education:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost Per Student in J.D.</td>
<td>1107</td>
<td>1541</td>
<td>1601</td>
<td>1841</td>
<td>2128</td>
</tr>
<tr>
<td>No. of Students</td>
<td>396</td>
<td>392</td>
<td>393</td>
<td>386</td>
<td>359</td>
</tr>
</tbody>
</table>

It seems that the Indirect cost on the whole was increasing and the
inverse relationship between the number of the students and the cost per
student was also prevailing and hence as the number of the students was
falling, the cost per student was increasing rapidly. So in the light of these
facts, there is an urgent need for this Faculty to increase the number of the students appreciably in order to control the soaring cost per student.

Now let us analyse the cost pattern in the Faculty of Archaeology and Anthropology.

8. Faculty of Archaeology and Anthropology:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost Per Student in J.D.</td>
<td>2695</td>
<td>3714</td>
<td>3254</td>
<td>4023</td>
<td>3880</td>
</tr>
<tr>
<td>No. of Students</td>
<td>152</td>
<td>121</td>
<td>149</td>
<td>128</td>
<td>138</td>
</tr>
</tbody>
</table>

When the number of the students decreased from 152 in 1993 to 121 in 1994, cost per student increased from being 2695 J.D. in 1993 to 3714 J.D. in 1994. In the same way, when the number of the students increased to 149 in 1995 from it being 121 in 1994, cost per student fell down to 3254 J.D. in 1995 from it being 3714 J.D. in 1994.

In 1996, the number of the students diminished to 128 from being 149 in 1995 and so the cost per student also increased to 4023 J.D. in 1996 from it being 3254 J.D. in 1995. Again to buttress the inverse relationship between the two, when the number of the students increased to 138 in 1997 from it being 128 in 1996, the cost per student also diminished to 3880 J.D. in 1997 from it being 4023 J.D. in 1996.

Thus as far as this Faculty is concerned, we see this rule of inverse relationship between the number of the students and the cost per student working quite well when the number of the students is increasing or when it is decreasing.
Here it should be clarified that it is entirely a Faculty for the postgraduate students and there are no bachelor students in it while in other 7 Faculties that we took into account, there are bachelor students as well as post-graduate students though the number of the bachelor students is predominating in all these 7 Faculties.

In the Faculty of Archaeology and Anthropology, cost per student is found to be very high. In 1997, it was 3880 J.D. per student. If the number of the students cannot be increased much, as it is a post-graduate Faculty, then it may be shifted to some other university. It looks like a white elephant and when the university has been passing through a financial crisis, it cannot afford to bear the high cost burden of such faculties.
Analysis of Cost-Coverage by Revenue:

After studying faculty-wise cost per student and its relationship with the number of students in the respective faculty, now we try to study faculty-wise coverage of its total expenditure by its own respective revenue. By total expenditure, we mean the sum of indirect cost and the direct cost in each respective faculty. With minor differences, indirect cost is like fixed cost and direct cost is like variable cost and the sum of the two costs expressed in money terms is the total expenditure for the respective individual faculty. Revenues are constituted by tuition fees in each faculty. Indirect costs are high in each faculty. Whenever the number of the students increases in a certain faculty, increase in the total fees and hence rise in its revenue, begins to cover greater part of its direct cost and sometimes it may cover part of indirect cost besides covering direct cost and hence cost per student may fall and revenue may cover greater part of total expenditure than before. Here the direct cost must be increasing less than proportionately with the increase in the number of the students and consequent increase in revenue due to tuition fees. For most of the faculties, the direct cost may be increasing less than proportionately with the increase in the number of the students, but there are exceptional faculties also where the direct cost may increase more than proportionately with the increase in the number of students and hence the increase in revenue may cover a lesser part of direct cost and hence cost per student may increase and the coverage of total cost by revenue may fall.

That is specially the case with the Department of Applied Engineering in Yarmouk University. But in the majority of the faculties of the university, direct cost seems to increase less than proportionately in relation to revenue with the increase in the number of the students and hence the cost per student falls and revenue coverage of total cost
increases. The opposite effect prevails when the number of the students diminishes i.e. cost per student increases and the coverage of total cost by revenue diminishes, with the fall in the number of the students. This is the general observation.

Now let us study the percentage coverage of total expenditure in each Faculty by revenue i.e. its own tuition fees faculty-wise one by one.

The following table gives the faculty-wise data:
Table No. 4-8
Faculty-Wise Revenues and Expenditures for the years 1993 to 1995 (in J.D)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Science</td>
<td>1492933</td>
<td>3846337</td>
<td>38.81%</td>
<td>1162232</td>
<td>4049149</td>
<td>28.70%</td>
<td>1018365</td>
<td>3874908</td>
<td>26.28%</td>
</tr>
<tr>
<td></td>
<td>Arts</td>
<td>1387514</td>
<td>4238137</td>
<td>32.74%</td>
<td>1402941</td>
<td>4641391</td>
<td>30.22%</td>
<td>1310897</td>
<td>4227271</td>
<td>31.01%</td>
</tr>
<tr>
<td></td>
<td>Education &amp; Fine Arts</td>
<td>922292</td>
<td>2813605</td>
<td>32.77%</td>
<td>1046874</td>
<td>3169571</td>
<td>33.02%</td>
<td>1005073</td>
<td>3017744</td>
<td>33.30%</td>
</tr>
<tr>
<td></td>
<td>Economics &amp; Administrative Sciences</td>
<td>1176044</td>
<td>2936238</td>
<td>40.05%</td>
<td>1272572</td>
<td>3342711</td>
<td>38.07%</td>
<td>1224671</td>
<td>2795070</td>
<td>43.81%</td>
</tr>
<tr>
<td></td>
<td>Applied Engineering</td>
<td>531005</td>
<td>1004262</td>
<td>52.87%</td>
<td>494444</td>
<td>1103490</td>
<td>44.80%</td>
<td>434183</td>
<td>1141322</td>
<td>38.04%</td>
</tr>
<tr>
<td></td>
<td>Sharia &amp; Islamic Studies</td>
<td>334995</td>
<td>878856</td>
<td>38.11%</td>
<td>387740</td>
<td>1107783</td>
<td>35.00%</td>
<td>340121</td>
<td>1076399</td>
<td>31.59%</td>
</tr>
<tr>
<td></td>
<td>Physical Education</td>
<td>124510</td>
<td>453871</td>
<td>27.43%</td>
<td>120497</td>
<td>619331</td>
<td>19.45%</td>
<td>123759</td>
<td>629235</td>
<td>19.66%</td>
</tr>
<tr>
<td></td>
<td>Archaeology &amp; Anthropology</td>
<td>30796</td>
<td>416577</td>
<td>7.39%</td>
<td>56457</td>
<td>456365</td>
<td>12.37%</td>
<td>29985</td>
<td>484846</td>
<td>6.18%</td>
</tr>
</tbody>
</table>
But we shall select the data for each faculty and shall examine them individually and will represent them in separate tables. Actually they are ratios of Revenue to total Expenditure expressed in percentage terms.

The number of the students also is given for reference:

**Faculty of Science:**

<table>
<thead>
<tr>
<th>In Percentage Terms</th>
<th>Year</th>
<th>1993</th>
<th>1994</th>
<th>1995</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td></td>
<td>38.81%</td>
<td>28.70%</td>
<td>26.28%</td>
</tr>
<tr>
<td>Total Expenditure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of the Students</td>
<td></td>
<td>3047</td>
<td>2771</td>
<td>2438</td>
</tr>
</tbody>
</table>

Coverage of total expenditure by revenue (tuition fees) which was 38.81 per cent in 1993, it diminished to 28.70 per cent in 1994 and to 26.28 per cent in 1995. Thus there was a substantial fall in expenditure coverage by revenue. In this connection, if we take into account also the corresponding number of the students year-wise, we find the number of the students falling. It was due to the decrease in the number of the students that the fall in the direct cost was less than the loss in revenue due to the missing of that much tuition fee. So the coverage of total cost by revenue diminished.

So, here efforts should be made to increase the number of students so that coverage of cost by revenue may increase.

Now let us study the situation in the Arts Faculty.
Faculty of Arts:

<table>
<thead>
<tr>
<th>In Percentage Terms</th>
<th>1993 (Revenue)</th>
<th>1994</th>
<th>1995</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>32.74%</td>
<td>30.22%</td>
<td>31.01%</td>
</tr>
<tr>
<td>Total Expenditure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of the Students</td>
<td>4202</td>
<td>4260</td>
<td>3862</td>
</tr>
</tbody>
</table>

In 1993, the number of the students was 4202, but in 1995, the number of the students diminished to 3862. So the ratio of coverage of total expenditure by revenue also fell down to 31.01 per cent in 1995 from its level of 32.74 per cent in 1993. 1994 was the exceptional year. But generally, the direct and positive relationship between the number of the students and the coverage of total expenditure by revenue prevails in most of the faculties. In some isolated years, there may be found some strange behaviour on the part of this ratio, but that may be on account of the use of the cash basis accounting system in place of the more appropriate accrual basis accounting system that is used in Yarmouk University.

Now let us study the situation in the Faculty of Education and Fine Arts.

Faculty of Education and Fine Arts

<table>
<thead>
<tr>
<th>In Percentage Terms</th>
<th>1993 (Revenue)</th>
<th>1994</th>
<th>1995</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>32.77%</td>
<td>33.02%</td>
<td>33.30%</td>
</tr>
<tr>
<td>Total Expenditure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of the Students</td>
<td>2822</td>
<td>3260</td>
<td>3566</td>
</tr>
</tbody>
</table>
Here we clearly see that as the number of the students increased from 2822 in 1993, to 3260 in 1994 and to 3566 in 1995, percentage coverage of expenditure by revenue also increased from 32.77 per cent in 1993 to 33.02 per cent in 1994 and to 33.30 per cent in 1995.

These facts vindicate and provide supporting data to our hypothesis of the positive and direct relationship between the number of the students and percentage coverage of expenditure by revenue.

We now analyse the behaviour of this ratio for the Faculty of Economics and Administrative Sciences.

**Faculty of Economics and Administrative Sciences:**

<table>
<thead>
<tr>
<th>Year</th>
<th>1993</th>
<th>1994</th>
<th>1995</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>40.05%</td>
<td>38.07%</td>
<td>43.81%</td>
</tr>
<tr>
<td>Total Expenditure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of the Students</td>
<td>3545</td>
<td>3738</td>
<td>3331</td>
</tr>
</tbody>
</table>

When there are a large number of students in a certain faculty, the cost of the salaries and other costs of the common Administrative and other common staffs outside the respective faculty are added in greater proportion to the indirect cost of that particular faculty in Yarmouk University and so total expenditure in that faculty remains high.

So when the number of the students in that faculty increases, the indirect imputed cost of the faculty may increase more than the difference between increase in revenue due to tuition fees and less than proportionate increase in direct cost and hence coverage by revenue of the total cost or
total expenditure may diminish rather than increase. That is why in this faculty, when the number of the students increased to 3738 in 1994 from being 3545 in 1993, expenditure coverage by revenue fell down to 38.07 per cent from being 40.05 per cent in 1993 and when the number of students decreased to being 3331 in 1995, the coverage of expenditure by revenue increased to 43.81 per cent. This does not belie our hypothesis of direct and positive relationship between the number of the students and percentage expenditure coverage by revenue. It continues to be true for the Faculty of Economics and Administrative Sciences also.

Now we shall study the behaviour of this ratio for the Faculty of Applied Engineering.

<table>
<thead>
<tr>
<th>Faculty of Applied Engineering.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
</tr>
<tr>
<td>Revenue</td>
</tr>
<tr>
<td>52.87%</td>
</tr>
<tr>
<td>Total Expenditure</td>
</tr>
<tr>
<td>No. of the Students</td>
</tr>
</tbody>
</table>

Here, we observe that as the number of the students has increased, the percentage coverage of expenditure by revenue has diminished. In this Faculty of Applied Engineering, it seems that the direct cost increases more than proportionately when the number of the students increases and so increase in revenue due to tuition fees is found to be less than the increase in the direct cost and hence the total expenditure increases more than the increase in revenue due to increase in the number of students. So
this Faculty provides an exception to our hypothesis and it is not found to be true for this Faculty.

Now we analyse the situation in the Faculty of Shariah and Islamic studies.

**Faculty of Shariah and Islamic Studies.**

<table>
<thead>
<tr>
<th>In Percentage Terms</th>
<th>1993</th>
<th>1994</th>
<th>1995</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>38.11%</td>
<td>35.00%</td>
<td>31.59%</td>
</tr>
<tr>
<td>Total Expenditure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of the Students</td>
<td>997</td>
<td>1147</td>
<td>1237</td>
</tr>
</tbody>
</table>

Here in this Faculty, the number of the students is high and so the imputed indirect cost for the Faculty due to Administrative and other common staffs of the University outside this particular Faculty, is also high as in the Faculty of Economics and Administrative Sciences. So when the number of the students increases, this indirect imputed cost for the Faculty is found to increase more than the difference between the increase in revenue and (less than proportionate) increase in the direct cost due to increase in the number of the students and hence total cost or total expenditure increases more than the increase in revenue. Consequently, Expenditure coverage by revenue falls, as we find in the above table. The number of the students increased and the percentage coverage by Revenue for Expenditure diminished instead of increasing. But it does not invalidate our hypothesis of positive relationship between the number of the students and the coverage of expenditure by revenue for reasons as we have given above.
Now we study the situation in the Faculty of Physical Education.

The Faculty of Physical Education.

<table>
<thead>
<tr>
<th>In Percentage Terms</th>
<th>Year</th>
<th>1993</th>
<th>1994</th>
<th>1995</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td></td>
<td>27.43%</td>
<td>19.45%</td>
<td>19.66%</td>
</tr>
<tr>
<td>Total Expenditure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of the Students</td>
<td></td>
<td>396</td>
<td>392</td>
<td>393</td>
</tr>
</tbody>
</table>

When the number of the students fell from being 396 in 1993 to 392 in 1994, the percentage coverage of expenditure by revenue also decreased 19.45 per cent from it being 27.43 per cent in 1993. As the decrease in the number of the students was less, the fall in the revenue coverage ratio was also small.

When in the year 1995, the number of the students increased by even one number, revenue coverage ratio also slightly improved from being 19.45 in 1994 to 19.66 in 1995. So here, also our hypothesis of positive relationship between the number of the students and the revenue coverage ratio is verified. Sensitivity of the revenue coverage ratio with the number of the students was found to be high.

Institute of Archeology & Anthropology.

<table>
<thead>
<tr>
<th>In Percentage Terms</th>
<th>Year</th>
<th>1993</th>
<th>1994</th>
<th>1995</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td></td>
<td>7.39%</td>
<td>12.37%</td>
<td>6.18%</td>
</tr>
<tr>
<td>Total Expenditure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of the Students</td>
<td></td>
<td>152</td>
<td>121</td>
<td>149</td>
</tr>
</tbody>
</table>
Here also like the Faculty of Applied Engineering, the direct cost increases more than proportionately with the increase in the number of the students and hence revenue increase due to tuition fees does not keep pace with the increase in direct cost and hence with the increase in the number of students, total expenditure increases by more than the increase in revenue and hence revenue coverage ratio falls.

Opposite happens in case of fall in the number of students and the revenue coverage ratio increases in that case as we see in the above table.

Thus our hypothesis is not found to be true in case of this Institute as also in case of the Faculty of Applied Engineering.

Thus our hypothesis of positive relationship between the number of students and the revenue coverage ratio is verified in six Faculties out of seven Faculties and one Institute.

Obstacles in Establishing Efficient Financial Management System at Yarmouk University:

But there are 4 main hurdles in the proper planning and budgeting in Yarmouk University (1) One is the neglect of the external constraint in the form of dwindling share from tax revenue and fall in Government grants and donations and their instable character; (2) the Line-Item Budget System followed by the University; (3) the lack of realization on the part of higher management about the benefits of the use of modern scientific techniques in financial Management, and (4) Absence of Efficient and full-fledged Information system which can enable the policy makers to take corrective steps ans well-informed policy decisions in time.
Other Major Hurdles:

In addition to the difficulties in financing, there are other obstacles related to financial management matters such as:

1. Tendency to centralization imposed by the regulations, and rules, which deal with financial matters and also others.

2. Some of these regulations now in effect have not been updated since long. So there is some element of irrelevance in them in the context of the present situation.

3. Difficulties in procedures to modify regulations, as this requires a series of legal formalities to be completed before the regulations can be modified.

4. Incomplete understanding by others of the nature of financial matters due to lack of knowledge regarding rules and regulations.

5. Budget proposals presented by faculties and departments mostly consist of excessive demands.


7. Excess of financial control by several hands may imply more accuracy but it causes delay in procedures also.

8. Verbal and not written paying orders by some of decision makers in the university lead sometimes to an argument and difference between two points of view.

The Process of Budget Preparation:

Yarmouk University makes use of the traditional budget system. The budget is prepared according to the following steps:

(1) Two months before the year end, the financial affairs units begin to estimate the expected revenues for the next year, also estimating
expected common expenditures like wages, salaries and social security etc.

(2) Each faculty or department drafts its budget proposals on the basis of priorities and needs.

(3) The financial department through its various divisions discusses these items with Deans and the directors of the faculty departments and the amount and priority of each item are fixed up according taking into consideration the expected revenues for the next year.

(4) The final general budget is prepared by the finance department and presented to the university President in order to be discussed and approved by the university council and finally by the Council of Higher Education which has the final decision.

After the approval of the budget, the Finance Department has to implement budget items, revenues or expenditures and supervise how far the revenue items have been realized and the expenditures carried out in manners which conform with the university rules and regulations.

Authorities for Spending According to University Financial Regulations are mentioned below:

President & Vice Presidents: 5000 JD
Dean: 1000 JD
General director of admin unit: 1000 JD
Director of department: 100 JD
Head of academic division: 100 JD
Authorities for purchase are classified as follows:

1. 1000 JD or less: approval of the Dean or general director
2. 2500 JD or less: approval of the general secretary
3. 5000 JD or less: approval of the president
4. 5000-10000 JD: approval of dean or general director
5. 10000 JD or more: decision by central tenders committee

Exercising of the purchase and spending authority is done in accordance with the university rules and regulations and its constraint then is appropriations availability.

Purchase procedures at Yarmouk University are exercised as follows:
1. Purchase orders are received by the supplies department in which the estimation of the expected cost is done.
2. The finance affairs unit assures of the availability of appropriations before purchase, reserving amount in advance and finalizing purchase process within the amount not exceeding the expected value.
3. If the total value of purchase exceeds budgeted appropriations in amount "that appears from companies offers" extra amount will be reserved, or a request to decrease the quantities is done, thus ensuring that resources are allocated and used efficiently before and after purchase, or pay.