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FINANCIAL MANAGEMENT

IN EDUCATION

by

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The views expressed in this document are those of the author and do not necessarily represent the opinions of UNESCO.

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PREFACE

In education systems throughout the world, financial management has become, and continues to become, of much increased importance. This is partly because of the onerous financial constraints under which education systems now have to operate, partly because of trends in many countries towards delegating at least some degree of financial control to individual schools and colleges, and partly because of moves towards increased accountability in all public service systems.

The present publication is intended to provide a general introduction to a complex field, the ramifications of which vary widely in different countries. As will be seen, the text commences with the problematic question of how to define financial management and then goes on to include coverage of both general principles and also practical details in case studies.

The text shows that financial management systems currently in operation in many countries are inadequate, that budgeting is too often carried out as a mechanical accounting exercise, that the introduction of computerization to educational budgeting and accounting systems greatly increases their potential, that the effective control of costs must be an integral part of any financial management system, and that currently financial and other resources are currently allocated on very unequal bases. Consequently, emphasis is laid on the need for more and better training systems for staff involved in financial management.

The text is aimed at no one target group. Rather, it is hoped that the publication will prove useful to all those interested in financial management in education, whether educational practitioners, administrators, planners, policy-makers, or others. In view of this potentially wide audience, doubtless some readers may find some sections of more direct use than others. It is hoped that all will derive some benefit and will find in the text various points that will be applicable to their own education systems.

INTRODUCTION

It is first necessary to consider what is meant by Financial Management, a term which has been in wide use in business and commercial circles for many years but which has only been applied to education more recently.

Financial Management in business and commerce

With regard to the use of the term Financial Management in the business and commercial world, a major text gives the following extensive definition :

"Financial Management can be defined as :

Assisting in the achievement of the overall objectives of the firm through :

- (a) The provision of finance when and where required in a manner and at a cost which provides an acceptable level of risk to the business.*
- (b) The investigation and evaluation of investment opportunities open to the business...*

Financial management concerns two central and related questions : How firms should choose the investments they make, that is, the investment decision, and how they should raise the necessary finance, that is, the financing decision. Allied to these is the question of dividend policy, if applicable. The investment decision concerns both the long-term appraisal of many types of capital projects or investments and the efficient management of existing assets. Decisions on large-scale projects are usually designed to maintain the long-run profitability of the business while the day-to-day decisions control the current profitability.

The financing decision is concerned with determining the best financing mix or capital structure. In a perfect capital market the capital structure of the firm would be irrelevant to its value but in reality the market imperfections of taxation, bankruptcy costs and information costs have a major impact. The other important decision that must be made from time to time is the firm's dividend payout ratio, that is, the percentage of earnings paid out in dividends and the need to retain earnings for future growth financing. Considerable judgement is required in evaluating the firm's financing needs and the investor's preference for dividend income or capital gains.

Financial management therefore, involves the solution of these major decisions. Together they determine the value of the firm to its shareholders."

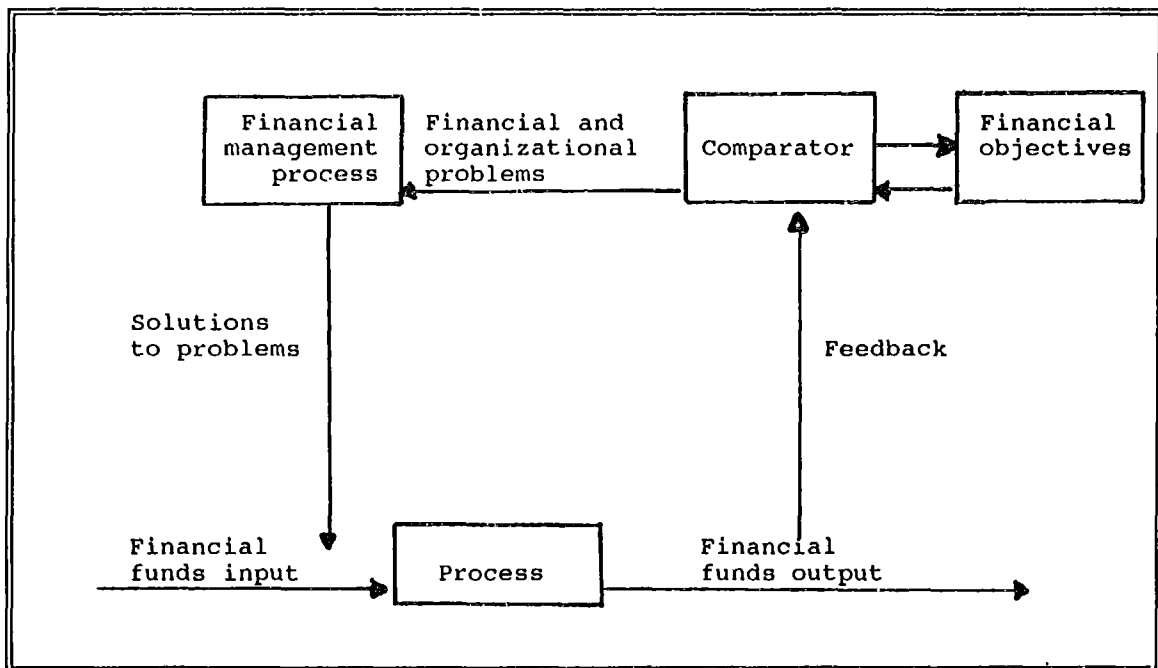
(Kennedy et al., 1988)

In contrast to accounting, which is a functional activity concerned with the processing and interpretation of information, financial management is seen as essentially a management function : it is concerned, in the main, with the

management of the financial aspects of the enterprise. Thus the financial manager has to deal with such variables as the cost of raising funds on the capital markets, current exchange rates, short-term interest rates on the money markets, and information on new investment opportunities available (Puxty & Dodds, 1988).

The place of the financial management process in the financial and organizational structure of the firm may be shown as in Figure 1, which clearly emphasizes the on-going, circular, feedback nature of the process :

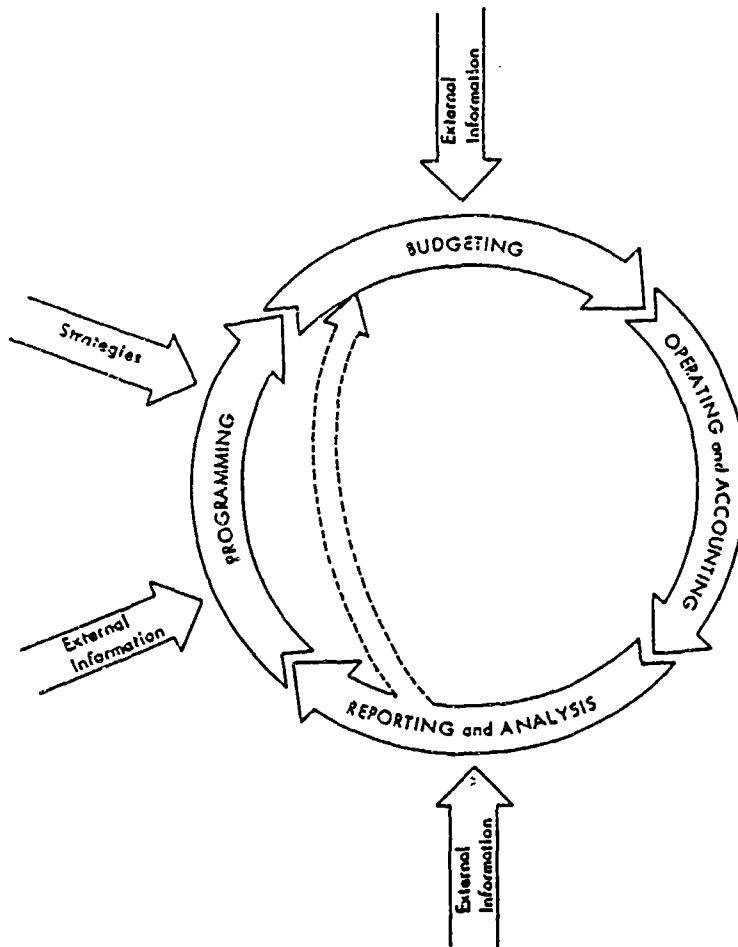
Figure 1
Control loop



(Source : Puxty & Dodds, 1988)

An alternative presentation emphasizes the management control functions of the institution's budgetary and accounting procedures, with each stage drawing on experience from the previous stage :

Figure 2
Sequence of Management Control Processes



Source : Anthony and Welsche, 1974.

There is, however, no clear consensus within the financial and business world as to what does or does not constitute the financial function, which is the subject matter of financial management, and the duties of different financial managers may vary considerably (Puxty & Dodds). Financial management has changed significantly in recent years and has become progressively more important and more complex, as a result of such influences as high inflationary pressures, the increased volatility of financial markets, the blurring of distinctions between different types of financial institutions, the rapid development of new markets and securities, and the increased use of computers (Birgham and Gapenski, 1988). The increased internationalization of many business activities and uncertainties relating to exchange rates could also be cited as causal factors.

Puxty and Dodds (1988) summarize the financial management function and the role of the financial manager thus :

- (i) *The financial manager performs a true management function, concerned with decisions and control over the financial affairs of the enterprise.*
- (ii) *The environment of the financial manager is crucial, and yet constantly developing. New markets and new financial instruments, combined with increasing volatility in the financial environment, make the task today more difficult and more complex than in the past.*
- (iii) *Although there are good reasons for seeing the enterprise as a coalition of participant groups, financial theory has tended to take the alternative ownership view. As a result, the enterprise is seen as the vehicle whereby investors can focus their resources into real productive projects.*
- (iv) *In carrying out their tasks on behalf of investors, the financial managers must see their task as fully integrated with the other managerial functions of the enterprise. Just like the management accountant, their expertise and knowledge should be part of all major decisions that have resource implications.*
- (v) *There are various ways the financial management function can be classified. One is into strategic and operational decisions. Another is a division between financing and capital budgeting decisions. A third is between external and internal decisions. In any event, the linkages must be always taken into account. The problem is exacerbated because managers cannot necessarily be relied on to maximize the welfare of the owners.*
- (vi) *We always assume, in our theorizing, that the management is attempting to maximize the value of the enterprise on behalf of the owners. This in turn is based on the assumption that the owners are utility maximizers. We have shown that the two are essentially consistent.*
- (vii) *This task is made difficult by the existence of uncertainty. Although many insights can be gained by assuming the uncertainty away, any prescription for managerial action must eventually be based on an uncertainty-based model".*

FINANCIAL MANAGEMENT IN EDUCATION

Clearly the above definitions of financial management in business and commerce cannot be applied in their entirety to financial management in education, as is immediately apparent from the above references to dividend policy, which is rarely, if ever, applied to any aspect of education.

All public sector organizations, including education authorities (or school boards) have similar requirements to business organizations to publish accounts of their use of public funds and to conduct audits. They will also have to draw up their budgets for educational expenditure according to quite strict rules, in particular where they are subject to formula funding.

Budgets for schools and colleges will be derived from the education authority's planning of its educational provision, and are also used as instruments for decentralized control of schools and colleges.

"However, for the managers of schools and colleges, the main focus of "financial management" of the delegated budget will be internal management (the tasks of planning and control) rather than the stewardship functions (i.e. re legal and external requirements) of accountancy. Hence school and college managers will be more concerned with drawing upon relevant techniques from management accounting rather than those of stewardship accounting".

(Levacic, 1989)

Levacic, referring to the situation in the UK under the Education Reform Act 1988, by which each Local Education Authority (LEA) is required to delegate budgetary control to individual schools and colleges, goes on to give a detailed exposition of how financial management in education differs from that in the commercial world :

"Nevertheless, school and college managers under the 1988 Act will be held accountable by the LEA for the use of the resources delegated to them. This involves having their institution's financial transactions audited and drawing up budgets which show how financial resources were allocated. In addition, the Act places more emphasis than before on educational audit as a way of motivating and controlling school and college managers ; they are to be held accountable for their management of budgets by means of external evaluation of their institution's educational outcomes.

Though school and college managers need to be highly aware of the implications of educational audit and their role in it, their main concerns are those of setting the institution's broad policy framework (or aims), linking these to detailed operational goals and controlling the activities of the organization. Financial management in education is a key part of these management tasks ; it therefore embraces far more than managing money.

Schools and colleges will not be in the business of managing finance in the sense of managing monetary assets. Rather, delegated budgets give educational institutions the means to have a greater say over their real resources, such as teaching and support staff, books, equipment, materials and maintenance work. School and college managers have always been engaged in real resource management, but its chief focus has been organizing student time around the curriculum and deploying staff and materials in order to deliver the curriculum. The familiar activities of hiring staff, timetabling and allocating capitation moneys are all part of real resource management. Financial management enlarges the scope for schools and colleges to determine what real resources they acquire and how they deploy and develop them.

In a sense, financial management is something of a misnomer, since in the business world the "finance" function refers to raising money to finance the business and investing this in short-term financial assets or in stocks and capital assets. Apart from a concern with the formula which determines the school or college budget and with any additional income generation, schools and colleges are unlikely to be much concerned with the other aspects of business finance.

They will have very few financial assets and liabilities to manage... the terms financial management in education relates to a broad set of management tasks concerned with planning and controlling what the institution (or, from the education authority's perspective, what the education service) does. In particular it is concerned with the acquisition and allocation of financial and real resources and with using budgets to plan and control the deployment of real resources. To undertake these tasks education managers do not need qualifications in accountancy ; rather they need to make common sense applications for a few key techniques and approaches, suitably adapted from the practice of management accountancy in other kinds of organization". (Underlining added)

(Levacic, 1989)

A number of points emerge from the above extracts :

- (i) Financial management in education applies both at the level of an education authority and at the level of individual schools and colleges ; it must therefore include the mechanisms through which the education authority allocates funds and resources to individual institutions.
- (ii) Financial management in education is an integral part of general educational management which embraces curriculum, staffing and timetable decisions, all of which relate directly to the essential function of the educational institution, and also essential non-instructional activities.
- (iii) The practical meaning of the term financial management will vary in different educational systems, depending on the degree of financial autonomy granted (a) to the education authority, and (b) by the

educational authority to individual schools and colleges. Obvious examples would be the references above to managing monetary assets, capital expenditure and debt provision, responsibility for which is usually not delegated to individual institutions, although it may be : in the United Kingdom, for example, "Grant-Maintained" schools now have some powers to manage and invest funds..

Financial management in one developing country, Brazil, was seen as primarily the process by which funds are allocated or budgeted, transferred, expended, and evaluated or audited, a prime focus being on the budgeting and transferring of federal funds to the various states within the country (World Bank, 1986a).

A USA view of the financial management role of the school district (= the education authority) reads :

"Financial management involves dealing with problems relating to receiving the maximum revenue available to the school district, safeguarding all financial resources and controlling expenditures and financial commitments throughout the fiscal period as directed by the budget adopted by the board of education. School business administrators are employees of the school district who, therefore, are primarily responsible for operating the school system within its financial resources as directed by policies of the board of education"

(Tidwell, 1986)

to which one could add that managers are now increasingly being assessed on the basis of educational results achieved.

In the UK, the Thatcher Government's Financial Management Initiative (FMI) launched in 1982, emphasized three key areas of public sector management : management by objectives, accountable units of management, and management information systems. A key aspect of FMI was the devolution of financial control. The 1988 Education Reform Act extended FMI to schools and colleges, each institution being given responsibility for and control over its own budget and staffing, and having to ensure, for example that its budget is balanced each year. Financial management thus became a main responsibility of school heads and college principals (McAlister and Connolly, 1990).

The reference above to a measure of decentralization of financial management control over educational resources in the UK has been matched by similar decentralization measures in other countries. A notable example is Chile where public schools could be municipalised, i.e. transferred to the effective control of municipalities, although still under the supervision of the Ministry of Education (Castaneda, 1986). An Australian study found great possibility of conflict arising from the combination of the move towards devolution and the trend towards greater accountability for the efficient use

of resources (Spicer, 1990). Much attention has also been paid to decentralization of the budget process to schools in parts of Canada and the USA (Brown, 1990).

At this point reference should also be made to the fact that most countries have, alongside their public service education system, private schools or colleges and that the latter may have to fulfil certain additional financial management functions such as control of their own assets and investments - depending on the terms of their founding trust or constitution or ownership (such as by a religious authority) - and in this sense may be said to occupy an intermediate position between the world of business and commerce on the one hand and that of non-profit making public service education on the other. Private school foundations often will have, for example, responsibility for capital expenditure and incurring debt, but they will still not normally have to concern themselves with some aspects of the financial management in the business world such as the payment of dividends. School districts or schools may also have some profit-making activities such as the school shop, bookshop, meals service, or athletics programme.

Financial goals and activities

Two American authorities, who take financial management to be synonymous with cash management, state the three major financial goals as :

- "
- ▶ *Availability. To ensure cash availability (liquidity) to meet daily needs and to increase cash available for investment purposes.*
 - ▶ *Yield. To earn the maximum return on cash invested.*
 - ▶ *Safety. To protect the assets of the school district against loss. "*

Other less important financial goals include the minimization of the costs of the cash management process in terms of monetary and labor costs (Dembowski and Davey, 1986).

The same writers specify cash management as being concerned with four activities :

- "
- (1) *The conversion of accounts receivable to cash receipts ;*
 - (2) *The conversion of accounts payable to cash disbursement ;*
 - (3) *The rate at which cash disbursements clear the bank ; and*
 - (4) *Maximizing the utilization of cash. "*

To briefly summarize the above discussion is not easy, but the main point is that financial management is essentially a part, and a major part, of the general management function and embraces a much wider range of activities than the more mechanical function of accounting.

CHARACTERISTICS OF FINANCIAL MANAGEMENT IN EDUCATION

The way financial management operates in practice will depend on the organizational and other aspects of the local education system.

The major characteristics of educational financial management are set out in some detail by El-Ghannam (1970), in the following terms. Although he was writing in connection with Arab countries, his comments will also be applicable to many other systems :

1. *The secondary role of educational authorities in major decisions on educational finance.* The Ministry of Finance (or its equivalent) typically has the upper hand in determining educational finance. It is the Ministry of Finance that is responsible for the provision of the required funds for the development of education and the balance in the appropriateness for education and other services and sectors is decided outside the Ministry of Education. Further, the position of the Ministry of Education is often relatively weakened by a failure to specify objectives or to base demands on sound or scientific arguments.
2. *The high degree of centralization in the management of educational finance.* The central education authority, which alone has details of sources of finance, draws up estimates of educational expenditure and largely determines allocations by level, by sector, and even by certain items in the budget, the freedom left to local authorities being quite limited. In recent years countries have tended to move towards the decentralization of financial and accounting functions but the central authority invariably retains the power to levy taxes or secure resources.
3. *Lags in the flow of money to users in the educational field.* This characteristic is a concomitant of centralization and continues even when central governments have delegated spending power to local authorities, due to the distance of these authorities from their schools.
4. *Poor relations between the management side of educational finance and the technical aspects of education.* El-Ghannam describes this as the most serious problem faced by educational administration, namely the divorce of the world of finance from the world of instruction : the former he depicts as being in the hands of a specialist in finance, concerned with accounts books and balance sheets, and having little contact with the educational process, whereas the latter is typically

the responsibility of an education graduate who, until recently at least, has had little or no interest in educational finance. The two rarely meet in any meaningful sense and typically do not understand each other's point of view.

5. *The concern with financial inputs rather than with their relation to educational outputs.* The foregoing dichotomy leads to the "financial man" being overly concerned with financial inputs to the neglect of their relation to educational outputs. For example, having provided the finance for teachers' salaries and other educational expenditure, he tends not to be directly interested in teachers' level of effort at school or in the wastage represented by pupil repetition or drop-out.
6. *The domination of traditionalism and rigid formalism in the management of educational finance.* The management of educational finance tends to be traditional, using traditional budgeting, control and accounting systems and methods of classification and leading to misuse of financial resources.
7. *The lack of efficient administrative personnel.* Little preparation, if any, is given to educational administrators, who may be ill-prepared for such work and may know little about education.

El-Ghannam was writing with reference to Arab countries, and his paper was dated some twenty years ago, but it can scarcely be doubted that his comments have wide international applicability and although some of his points can now be updated, they are largely still relevant today, twenty years later.

HOW ADEQUATE ARE CURRENT FINANCIAL MANAGEMENT SYSTEMS ?

Evidence is available from a number of countries to the effect that financial management systems currently in operation in education leave much to be desired.

An enquiry into the state of financial management systems in the Third World countries was conducted by the United States General Accounting Office (GAO). It concluded that the absence of effective financial management in developing countries was a major obstacle to the optimum use of resources, both internal and external, that were available to improve the standard of living in Third World countries. Effective financial management was essential because anything less would dissipate available resources and thwart development. To improve financial management, developing countries had to,

- ▶ develop effective accounting and auditing practices,
- ▶ ensure the presence of skilled personnel to effectively run their financial management systems,
- ▶ develop a comprehensive and up-to-date training programme at both the national and regional level of the developing countries, and
- ▶ increase their commitment to the realization of an effective training development programme and work more closely with the internal donor community in this effort.

The major weakness in government accounting in most of the five countries GAO visited was a lack of integrated financial information, produced in a timely manner, that could be used as a management tool in decision making. In many cases financial information developed by government ministries was incomplete, unreliable, and subject to extended reporting delays. What financial management information was developed might, therefore, not be very useful. Quite often, central government budget information was not tied in with past and present accounting data, so that past performance was not used to project future requirements and no real comparison of planned and actual financial performance could be made.

Traditionally, comptroller general offices in developing countries had emphasized pre-control (approval of disbursement requests) or post-control voucher audits. These audits were primarily concerned with the legality of transactions with little or no emphasis on financial controls, management systems, programme evaluations, or the economy and efficiency of operations.

Most comptroller general offices that GAO visited were interested in conducting professional financial audits similar to those by certified public accounting firms as well as economy and efficiency reviews of government programmes. Legislative requirements for detailed voucher audits, and lack of trained manpower, however, restricted their efforts.

The report quoted with approval from a UN publication "Report of the Fourth Meeting of Experts on the United Nations Programme in Public Administration and Finance" :

"The link between planning and budgeting processes is weak in many developing countries and needs to be strengthened. Successful working of programme budgeting calls for significant reforms in prevailing accounting systems, training of officials in the new skills and strong support from the political and administrative leadership. The developing countries should accord priority to these measures."

and from the UN study entitled "Government Accounting in Economic Development Management" which showed that, for developing countries as a whole :

"Government accounting is still seen mainly as an accountability device for public receipts and expenditures ; its evaluation, performance, measurement and managerial functions tend to be neglected. Accounting in the public sector has, by and large, adhered to a book keeping or administrative/legislative approach ; the accounts are generally kept according to the cash basis system rather than the accrual system... The amount of paperwork is vast, but neither efficiency, accountability nor financial control is improved. Financial decisions tend to be subject to unwarranted delays... budget items are rarely assessed from a managerial (performance budget) point of view. A tremendous gap might exist between budgetary estimates and actual receipts or expenditures."

The GAO report found that a severe shortage of trained financial managers existed in the public sector of Third World countries. It showed that the relatively small number of trained and experienced people in developing countries were often reluctant to work for the government. Reasons for this included low pay and ineffective civil service systems which neither protected career employees from political actions nor provided for merit promotions.

Governments of developing countries needed skilled personnel who could plan and budget public programmes, develop and operate management information systems (e.g. data processing), account for expended funds, and evaluate programme results and relate this factual information to future budgets and plans. Few government officials currently had such skills ; those that did were often frustrated by lack of interest on the part of the government in applying modern management procedures and the shortage of skilled people needed to implement them.

Training of skilled personnel alone, however, would not overcome these deficiencies in financial management systems. The host government must be dedicated to improving the systems and must be willing to devote a reasonable part of the available resources to this end. In the absence of such dedication, substantial resources could be expended without any real improvements in financial management (United States General Accounting Office, 1979).

The report concluded that the serious deficiency in financial management in the Third World was generally recognized as a major obstacle to the effective use of available resources in improving the standard of living in those countries.

In the USA, an enquiry into Financial Management structure and systems operated by the Federal Government's Department of Education and by schools resulted in a very critical report (United States General Accounting Office, 1987). Although the funding of education in the USA was primarily the responsibility of states, school boards and school districts, the US Department of Education gave or loaned \$ 16B. annually to schools, students, and other entities.

Key accounting and related internal control systems operated by the Department of Education and by its fund-receiving schools were found to have serious accounting and internal weaknesses. As a result, (1) billions of dollars in appropriated funds and other financial resources were not adequately protected from fraud, waste, and mismanagement, and (2) the Department's financial reports were deemed unreliable and did not derive from its accounting system. Needless to say, these were extremely grave charges.

The Department of Education relied on accounting systems run by colleges to disburse \$ 2.9 billion annually under its Pell Grant Program (relating to higher education). General Accounting Office's (GAO) review disclosed weaknesses in the schools' accounting systems which resulted in hundreds of millions of dollars in erroneous disbursements each year. For example, a recent GAO report pointed out that erroneous payments by schools totalled about \$ 600M. over a 2-year period. The key control the Department had over the school's accounting systems was biennial audits performed by states, the Department's Inspector General, and independent public accounting firms. The Department did not, however, adequately ensure that accounting system weaknesses identified by these audits were corrected. Thus, the system weaknesses and related erroneous grant payments persisted.

The Education Department's general ledger system, which should have been used to manage its financial operations and been the source of the agency's financial statements, contained unreliable data because of inadequate and

inefficient computer systems which supported the general ledger and subsidiary accounting systems. For example, Education's general ledger showed outstanding loan balances of \$ 271M. for one college housing programme while the balance in the subsidiary account for that programme totalled only \$ 2M. The difference arose because the accounting system could not correctly transfer computerized information from the subsidiary account to the general ledger. Because it did not have confidence in the reliability of the information in the accounting system, the Department had to estimate the value of much of its assets when reporting its financial condition.

The Department lacked adequate accounting for and control over property, much of which was held and used by contractors and grantees. The Department's property systems did not record automated data processing equipment, regional office property, and property in which the government had a financial interest that was held and used by contractors and grantees. As a result, the Department did not know the value and location of all the property it owned and, consequently, could not manage it nor protect it from fraud, waste and mismanagement.

Loan records for the Department of Education's \$ 2.6 billion Education Facilities and College Housing loan portfolios were inadequate. Specifically, for 49 randomly selected loans of a statistically valid sample of loans GAO selected from review, 5 loan files could not be located, and almost all files reviewed were missing key documents. For example, 11 of the 44 files were missing their most essential papers - the loan agreements. In the light of the administration's proposal to sell federally held loans to the public, the Department retained a private financial market consultant for advice. The consultant found that the Department's loan files were substandard and estimated that it could cost up to \$ 75M. to bring the loan files up to commercial standards in order to sell them to the public.

GAO recommended that the Secretary of Education ensure the adequate design of an overall financial management system. The design should address problems with both the general ledger and subsidiary accounting systems and should include goals, priorities, and milestone dates for component system projects. (United States General Accounting Office, 1987).

Given the prominence and reputation of the Government Department in question, and given the magnitude of the sums of money at issue, the severity of the criticisms outlined above is all the more surprising. This report is by no means the first to indicate weaknesses of a financial management nature in education but its criticisms do go much further than those suggested by earlier studies. Such inadequacies in financial management are clearly costing education systems large sums of money, amounting to some millions of dollars,

all of which must in the long run be taken from the resources needed for the education that the children receive.

Up to this point, our discussion has necessarily related to questions of general principle. We now need to turn to a number of matters of practical detail.

BUDGETING AND BUDGET PRACTICES

The budget is the master plan of the institution or education authority, pulling together, in the sense of making resources available for, the various aims, purposes and activities determined elsewhere. The budget is a financial plan that sets out, in advance, monetary requirements for a given period of time. Thus a budget essentially substitutes planning for chance in the financing of education authorities and schools (Johnson, 1982). Budgeting must be seen as a process over time involving three sequential stages :

- (i) Preparation of the budget or spending plan.
- (ii) Adoption and administration of the budget.
- (iii) Evaluation of budget results.

In the budgetary process, *"theoretically the education plan ought to be developed independently and prior to calculation of costs and determination of revenues. However, the reality of budget preparation is such that prior to preparation of the education plan, the administrative or executive staff make preliminary revenue calculations so as to have a general plan and spending guideline"* (GUE, 1979).

In the words of a well-known text on management control in non-profit organizations (as in education),

"Budgeting is an important part of the management control process in any organization, but it is even more important in a non-profit organization than in a profit-oriented company. There are several reasons for this.

In a profit-oriented company, particularly a manufacturing company, a large fraction of the costs are engineered costs ; for example, the amount of labor and the quantity of material required to manufacture products are determined within rather closer limits by the specifications of the products and of the manufacturing process. Consequently, little can be done to affect these costs during the budgeting process. By contrast, in most non-profit organizations a large fraction of the costs are discretionary ; that is, the amount that is to be spent can be varied within wide limits according to decisions made by management. The most important of these decisions are made during the budgeting process.

In a profit-oriented company, a budget is a fairly tentative statement of plans. It is subject to change as conditions change, and such changes, particularly in the level and mix of sales, can occur frequently during the year. Furthermore, there is general agreement on the way in which managers should react to such changes ; they should make revised plans that are consistent with the overall objective of profitability. In most non-profit organizations, conditions are more stable and predictable. In a university, the number of students enrolled in September governs the pattern of spending for the whole year. A hospital gears up for a certain number of beds, and although there may be temporary

fluctuations in demand, these ordinarily do not cause major changes in spending patterns. A governmental agency has a certain authorized programme for the year ; it operates so as to execute that programme. Under these circumstances, the budget can be, and should be, a fairly accurate statement of what is to be done during the year and of the resources that are to be used. It is therefore important that it be prepared carefully.

As in the case with most such statements, these differences between non-profit and profit-oriented organizations are matters of degree, and there is considerable variation among different types of organizations. It is nevertheless safe to say that in general the budgeting process is a key part of the management control process in a non-profit organization. Much time, including much top management time, should be devoted to it."

(Anthony & Herzlinger, 1975)

Budgeting practices, previously usually quite rudimentary and often inadequate, have developed enormously over the course of the last fifty years or so in all public bodies, including those in education, as part of the general trend towards greater accountability : legislative bodies in many countries have demanded greater involvement in the budgeting process. The post World War II growth of education systems led to increasing financial demands, as a *quid pro quo* for which legislatures tended to insist on better planning and accounting in respect of the use of such funds. At the same time, and from similar sources, there arose heightened public demand for greater efficiency and accountability in the operation of school systems.

Elaboration of the budget, and budget planning, on the part of a school or an education authority, have had to become more complex over time, partly because "*the important role of planning in the budgetary process was not always fully comprehended*" and partly because of the combination of "*the growth in pupil population, the demands of the public for new and expanded programmes, the need to employ the services of more highly trained instructional personnel and support personnel, the new instructional media and equipment which can be leased or purchased, and the growing public understanding of school financing*" (Candoli, 1978). "*In its operation, the budget implements (district) policies which have to be established through the budgeting process. As a result final resource allocation decisions reflected in the budget give the strongest indication of the district's actual educational priorities*" (Hartman, 1988).

A rapidly changing educational environment calls for periodic and intense examination of alternative ways to allocate school funds. In the past, traditional methods of budgeting have not given the school administrator adequate insight to weigh alternative plans ; even, past definitions of the term "budget" have reflected the traditional methodology of budget development. By contrast an education budget should be the translation of

educational needs into a financial plan which expresses the kind of educational programme selected for support, financially and in other ways, for the budget period. The budget is the numerical translation of the educational programme of a school or education authority : it expresses the value (in local currency) of the programme of education provided (Candoli, 1978).

The budget came to be seen as a planning tool for the future. This development, stemming from such causes as those indicated above, was greatly aided by the advent of high-speed data processing capability. With the use of computer spreadsheet facilities, expenditures can be classified according to different programmes or functions, running totals and sub-totals can be kept in memory and are available more or less instantaneously, elementary errors from addition or subtraction are virtually eliminated, and education authorities and schools can aim to provide more sophisticated accounts containing the fuller information now typically likely to be required (Johnson, 1982).

If the budget is primarily an instrument of planning, it is also an instrument of control. It reflects the organizational pattern by breaking down the elements of a total plan into sectional and departmental components, allowing costs to be more easily estimated. It then forces a coordination of these elements by reassembling costs in a whole, so that comparison may be made with total revenues. This very process requires a kind of orderly planning that otherwise might never take place (Candoli, 1978).

Public school accounting is a unique field of accounting, in that standard accounting principles have had to be modified to take account of the particular structures and needs of the education sector. In particular,

"Budgetary accounts used for management purposes by school systems compare :

- 1. The budget's estimate revenue with revenue actually realized to date. The difference between estimated revenue and actual revenues is the amount that estimated revenue has not been realized or the amount that actual revenue has exceeded the budgeted revenue estimate to date. When this comparative procedure is used, the variance between amounts budgeted and the amounts actually realized causes management to ask "What additional administrative actions are needed if the school district is to receive all of its revenue from these sources ?".*
- 2. Expenditures and encumbrances (financial commitments) with legal limits established by appropriations. When expenditures or encumbrances exceed the legal limit, one or more unauthorized transactions have taken place that can result in an operating deficit or a fund deficit. This comparison, when frequently made during the fiscal period, assists management in avoiding unauthorized expenditures and financial commitments and creating either operating or fund deficits".*

(Tidwell, 1986)

Budgeting has enormous potential as an instrument for the achievement of educational objectives :

"The school district budget is central to this operation of the educational enterprise ... It can provide a systematic means of focussing the efforts of district personnel on district priorities ... (It) is an important tool for school administrators to understand and utilize in achieving their basic mission - educating children in the most effective and cost-efficient manner."

(Hartman, 1988)

But the reality is sadly rather different. In practice education budgets often seem to have little directly to do with educational objectives. In the words of Hentschke (1988) :

"Unfortunately, actual budgeting practices fall far short of these high aspirations. Budgeting practice in school districts is largely a financial act of balancing revenue and expenditure projections and applying formula allocations to school sites. Study after study portrays school budgeting as a process that escalates and extrapolates the costs of current practices up to a forecasted revenue constraint. Major budget decisions revolve around how wage settlements, changes in tax rates and yields, and changes in staffing levels affect total expenditures. "Decisions" that lead to resource deployment for direct instruction (the heart of the productivity issue) are made by centrally administered allocation formulas with categorical, non-locally funded programmes tacked on. In sum, current practice rules out most marginal decisions about improved instructional programming. This fundamental discrepancy between expectations for budgeting and the reality of budgeting practice led in the 1960s and 1970s to a wave of criticisms of budgeting and proposals for radical changes in budgeting processes with the goal of improving public school productivity."

Such proposals for radical changes included PPBES, dealt with below.

Budgetary practices have varied considerably in different countries. France, for example, has had very detailed administrative and control mechanisms relating to school budgets, with little freedom or discretion left to individual institutions. A mere listing of the various account headings to be used covers fifteen pages (Connat, 1980 ; Gavard, 1981).

Educational systems in some countries may still operate quite simple budgets, which may be essentially mechanical, centralized, and administration-dominated, with little or no attempt to relate expenditure decisions to educational priorities or choices : the responsibility for developing the budget lies with the central office and little attention is paid to differing local needs.

"Allocations are made on a per-pupil basis, and no attention is given to existing resources or to any backlog of requests."

Decisions concerning pupil-teacher ratio, supplies, materials, texts, curriculum, etc., are made at the central office, and all schools must conform. This concept tends to treat the entire system as a homogeneous unit, rather than recognize that even the smallest systems are most heterogeneous : made up of diverse people with unique needs, abilities and capacities."

(Candoli, 1978)

A report relating to one developing country, Nepal, said :

"The practice of keeping a school budget in a systematic way has not been well developed in Nepal. Only in some modern second-level schools can one find a good budgetary record of school income and expenditure. In most schools, the recurrent and capital expenditures are not separated. The same applies to the different sources of financing of schools. The central government should assist individual schools to maintain a good budgetary procedure."

(Padhye, 1976)

Fortunately, at least some education systems have moved away from such a model towards decentralization of the budget process, facilitating much greater relevance and response to local needs and situations.

More modernized approaches to budgeting may be summarized as :

(i) *Functional budget.*

Starts with the elaboration by educational planners of the objectives of a school or education authority as the first step in the budget process, following which the educational plan is translated into a budget. The budget translates the qualitative and quantitative aspects of the educational programme into planned expenditures. In other words, the emphasis of the budget is on the operational function of each item.

(ii) *Continuous budget.*

Sees budgeting as an integral part of the daily operation of the school or education authority. A calendar is established which distributes the various phases of the budget over a twelve month basis and budget discussions are scheduled to take place at regular intervals. Immediately upon adoption of a budget, work starts on the development of the next budget document : strengths and weaknesses in the operation of the present budget are emphasized, in the light of educational plans. The budgetary process is thus seen as essentially ongoing and continuous.

(iii) *Participating budget.*

Until recently, it could fairly be said that "School principals and teachers have little to say about the development of educational policy or how district policy is implemented" (Garms et al., 1978). In recent

years, however, decentralized approaches to financial decision-making in education have gained considerable prominence. Allocation of resources at the school building level offers considerable opportunity for school improvement if the resources can be directed towards the achievement of school goals.

An interesting study by Hartman (1989) analyzed in depth a participatory approach to high school budgetary decision-making as used by one high school in the USA and showed the importance of teaching staff participation in school budgetary decision-making. Within the school, the administration distributed budget-related information and each department head worked with other teachers in his/her instructional department to determine their supply and equipment needs for the coming year, the estimated cost of all requested items, and the priorities of individual budget items. The process thus related to all supply and equipment items for the school but not to e.g. staffing. All budget requests were submitted to the school business manager who consolidated them into a master list for the school.

At that stage it became apparent that, for the ensuing year, departmental requests totalled \$ 315,000, whereas the allocation of funds from the school district amounted to only £ 251,000 ; thus the excess, \$ 64,000, had to be pruned from the budget requests. Each department head then had to argue the case for his/her department's budget-requests at the same time having to be prepared eventually to compromise in order that the budget target could be met. Decisions were reached by consensus, with only the very occasional vote. By having all relevant data for all departments, each participant was enabled to see a school-wide overview, which "*helped counter departmental parochialism*". Trade-offs occurred between departments. The school business manager kept a running tabulation of the budget reductions agreed and the size of reductions still needed.

The budget allocation figures negotiated during the meeting became the department supply and equipment budgets for the ensuing year. In each department, teachers were more likely to accept difficult choices if they heard the reasons for the budget cuts affecting them from a colleague who was part of the process. The end-product from involving others in making allocation decisions was a more informed and cohesive staff. This does not imply that the school principal was a passive observer of the process : from time to time he would intervene to redress any imbalances perceived in the various budget requests. He was, however, prepared to follow the group consensus even if he did not necessarily agree with it. This demonstrates that the fact of an inter-department agreement was perceived as being more important than the

fine detail of what was agreed : the approach brought wider participation among school staff, bringing decision-making closer to the classroom and enhancing the commitment of teachers. Hartman concludes :

"The participatory budgeting approach is no magic elixir. It is a time-consuming process involving many personnel in the school and, consequently, is more difficult to coordinate and manage. A decentralized approach for budgetary decisions reduces the direct administrative control over the distribution of school funds and requires more complex organizational procedures ; however, broader participation among school personnel provides decision-making closer to the classroom and enhances greater commitment of school staff..."

In summary, a participatory budgeting approach can be an effective means of distributing instructional resources within the high school. It is consistent with the findings from effective schools research and is a component part of implementation of school site budgeting. Through open discussions among faculty leaders and administrators, joint decisions are made, directing funds to the areas thought to be of the greatest importance to the school. Involvement of faculty leaders builds staff commitment which can maintain and strengthen staff morale and cooperation."

It is, however, worth recalling that this approach worked, and worked well, in the case of the relatively limited funding applicable to school materials, supplies and equipment. Once decentralized decisions are extended to include personnel, it seems unlikely that such an open, democratic procedure as that outlined above would still be appropriate. An important aspect of decentralization is that increasingly citizens of the local community should also be involved in the planning process (Candoli, 1978).

(iv) *Decentralized or school site budgeting.*

When educational budgeting is decentralized and school building administrators gain the power to make final spending decisions, a significant change takes place in the way schools (and school systems) are managed. Decision making becomes decentralized. This shift of power needs to be understood if the school site budgeting process is to succeed (Greenhalgh, 1984).

Which decisions will be retained centrally and which will be decentralized to schools ? No one correct answer to this question is possible but in general matters relating to the classroom needs of children and teachers will be best understood at the school site.

Some decisions regarding the operation of schools can best be made centrally, including the application of uniform wage scales and employees benefits, compliance with legal requirements, labour agreements, resource entitlements, accounting and reporting systems and matters of public welfare and relationships with other government departments.

One approach suggested is that the education authority should decide WHAT is to be done and WHY it is important, WHO is to do it and WHERE it is to be done. Then the school decides HOW it is to be accomplished and WHEN (Greenhalgh, 1984), but such a facile approach is obviously not without its limitations.

Decentralization facilitates experimentation. Differing instructional methods, materials, staffing, time blocks, and pupil-teacher relationships are often tried out within a school building in an effort to better meet specified instructional objectives. Children learn from their immediate environment. Decentralization permits and demands the manipulation of instructional stimuli.

Decentralized budgeting creates decentralized instructional decisions. The budget parcels out and assigns the resources in a locally prescribed manner. Typically a centralized school budget is a control device. Centrally formulated budgets provide rigid adherence to centrally perceived expenditure plans. As such they are very inflexible. Arguments for decentralized budget decisions must relate to advantages of flexibility and adaptability to pupils' ever changing needs.

Decentralized budgeting will bring in its train uniform accounting and financial reporting requirements. In order that the education authority can still operate appropriate supervision and control. This in turn will imply appropriate planning at the local level.

SCHOOL SITE BUDGETING

The school site budgeting process has been seen (Greenhalgh, 1984) as comprising five distinct stages :

1. The establishment of an overall education authority budget target.
2. The establishment of basic (non school site) costs.
3. The assignment of remaining funds to individual schools on a per capita basis.
4. The development of individual school expenditure plans.
5. The assembly of individual school expenditure plans into a comprehensive district budget in accordance with No. 1.

The school will be free (within prescribed legal and other constraints, such as those relating to health and safety) to choose its own priorities in the use of the budget funds allocated to it. These will stem from some more or less rational allocation process, which may possibly need to be reviewed.

The school will have to devote much valuable staff time to elaborating personnel costs, non-staff costs, mandatory and other requirements, expected future population changes and possible other funding sources. The question of which centralized education authority costs can be assigned to school sites is a thorny one, which may require delicate negotiation. Central planning and leadership will remain, in varying degrees, but it may take time for new roles, and new costing levels, to become clarified.

In the determination of allocations to schools one of the most problematic questions relates to the weightings to be attached, for costing purposes, to "exceptional pupils" or "special pupils", i.e. those falling into one of the various possible categories of educational difficulties or learning difficulties. An example of how such differential weighting may be built up, for various categories of pupils with special needs, from the contributory components of additional costs, is given in Figure 3 showing the emphasis as being clearly on personnel (teachers and educational aides). Figure 4 gives a somewhat different categorization, with particularly high weightings for the "severely learning disabled and autistic" categories.

After all such considerations have been taken into account, the resulting weightings and allocations for one group of schools are as shown in

Figure 5, from which it is interesting to compare the differing allocations to different schools.

In computing the detailed costings that will be required in order to be able to complete each school's budget plan (or allocation by the authority/board/district), staff salaries may present a particular problem. Given the rapidity of staff job movements and turnover, it will normally be extremely difficult if not impossible to calculate exactly each post-holder's position on the relevant salary scale and it will therefore be necessary to use, for estimation purposes, some "simulated" or average salary position such as the mid-point of the relevant salary scale ; in practice the use of such representative salary point has been found to give a good approximation to the eventual salary cost out-run. A sample listing of such simulated salary points is given in Figure 6, showing the mix of basic salaries and additions at each level.

Figure 3
Exceptional pupil expenditure weightings

	Simulated Unit Value	Elementary				Junior high				Senior high			
		P.S.S	E.M.	I.L.D.	L.D.R.	E.M.	E.M.R.	L.D.R.	C.L.D.	E.M.	E.M.R.	L.D.R.	T.M.R.
Special Ed. teachers	21,245	1	1	1	1	1	1	1	1	1	1	1	1
Special Ed. aides	7,993	1	1	1	-	1	1	-	1	.50	1.5	.5	1
Counselors	21,945	-	-	-	-	.24	.10	.10	.10	.24	.12	.24	.12
School psychologists	27,435	.14	.14	.10	.05	.08	.10	.05	.10	.08	.04	.08	.04
Reading teachers	21,945	-	.014	.014	.014	.01	.014	.014	.014	.01	.01	.02	.01
Speech, language, hear. teachers	21,945	.20	-	.01	.05	.01	.10	.10	.20	.01	.20	.10	.20
Mainstream teachers	21,945	.08	.032	.16	1.3	.28	.28	1.5	.10	.42	.60	1.5	.07
Text and materials	450	1	1	1	1	1	1	1	1	1	1	1	1
Summary of costs		40,374	41,559	37,169	53,700	44,433	43,972	61,380	64,162	43,509	55,891	69,404	40,263
Class size		12	7	10	20	7	10	20	10	12	15	25	8
Simulated cost/pupil		3,365	5,937	3,717	2,685	6,348	4,397	3,069	6,416	3,626	3,726	2,776	5,033
Weighted pupil expenditure units		2.1	3.7	2.3	1.7	3.9	2.7	1.9	3.9	2.2	2.3	1.7	3.1

P.S.S. - Pre school special
L.D.R. - Learning disabled resource
E.M. - Emotional maladjusted
C.L.D. - Combined learning disabled
T.M.R. - Trainable mentally retarded
I.L.D. - Intermediate learning disabled
E.M.R. - Educable mentally retarded

(Source : Greenhalgh, 1984)

Figure 4
Special education pupil weightings

Elementary school

Educable mentally retarded	2.3
Emotional maladjusted	3.7
Learning disabled	2.4
Learning disabled resource	1.65
Training mentally retarded	3.1
Severely learning disabled and autistic	4.4
Pre-school language	.4

Junior high school

Educable mentally retarded	2.5
Emotional maladjusted	3.5
Learning disabled	2.6
Learning disabled resource	1.8
Severely learning disabled and autistic	4.7

Senior high school

Educable mentally retarded	2.4
Emotional maladjusted	2.3
Learning disabled resource	1.8
Trainable mentally retarded	3.1

(Source : Greenhalgh, 1984)

Figure 5
Assignment of school funds

Budget target	22,587,840
Less basic costs	(6,149,860)
Allocation to schools(\$)	16,437,980

School	Enrolment	Weighted* Grade level	Exceptional pupils	Weighted** exceptional pupils	Weighted pupil expenditure units	X \$ 1643.27 (\$)	Size subsidy (\$)	Allocation (\$)
Adams	298	279	22	43	322	529 136	136	529 272
Buchanan	233	220.5	23	46.5	267	438 756	7 350	446 106
Fillmore	257	236.5	19	36.35	272.85	448 369	6 554	454 923
Harrison	324	303.5	28	72.8	376.3	618 366		618 366
Jackson	381	360	47	75.6	435.6	715 812		715 812
Jefferson	247	233	14	17.7	250.7	411 970	9 569	421 539
McKinley	366	345	16	26.55	371.55	610 560		610 560
Pierce	300	283.5	21	48.95	332.45	546 308		546 308
Polk	270	253.5	24	48.55	302.05	496 353	2 579	498 932
Taylor	312	293	14	23.25	316.25	519 687	647	520 334
Tyler	258	246	30	57.35	303.35	498 489	2 402	500 891
Van Buren	365	349	18	29.15	378.15	621 406		621 406
Madison JR.HI.	647	769.93	55	134.95	904.88	1 486 969		1 486 969
Monroe JR.HI.	645	767.55	57	146.4	913.95	1 501 874		1 501 874
Lincoln HI.	1 503	1 833.66	102	212.37	2 046 03	3 362 180		3 362 180
Washington HI.	1 541	1 880.02	129	252.76	2 132.78	3 504 733		3 504 733
Alternative school	50	59.5			59.5	97 775		97 775
					-----	-----	-----	-----
					9 985 39	16 408 743	29 237	16 437 980

Kind. 5
Elem. 1
JR.HI 1.19
SR.HI 1.22

According to pathology

(Source : Greenhalgh, 1984)

Figure 6
Simulated (average) salaries for budgetary planning

Positions	Simulated Salaries	Benefits	Total
Aides, Educational	5 875	1 960	7 835
Counselors	22 831	3 425	26 256
Custodians, Regular	10 342	3 325	13 757
Head cust., Elem. school	12 435	3 722	16 157
Head cust., Sec. school	14 330	4 097	18 427
Principals, High School	32 478	4 872	37 350
Jr. High School	32 036	4 805	36 841
Elem. School	27 643	4 146	31 789
Asst. Principals			
High School	26,929	4,040	30,969
Jr. High	25,738	3,861	29,599
Elementary	24,994	3,749	28,743
Programme Coordinators	22 873	3 431	26 304
School Psychologists	23 510	3 527	27 037
Secretaries, 12 month	11 330	3 240	14 570
Secretaries, School Year	8 670	2 718	11 388
Teachers and Specialists	18 620	2 793	21 413
Hourly Services			
Extra Secretariat	4.00 hourly		
Extra Custodians	4.50 hourly		
Utility Assistance	3.27 hourly		
Other Rates			
Substitutes, Professional	30.00 daily		

(Source : Greenhalgh, 1984)

Following such preliminaries, each school can proceed to compute its budget plan for the ensuing year. Examples of pro-formas for such budget plans, for elementary and secondary schools respectively, are given in Figures 7 and 8 : such standardized forms will greatly facilitate the budgetary planning process.

In practice, the operation of a decentralized school budget must commence with the sending out by the education authority of a schedule giving parameter data on the basis of which the school can compute its anticipated income for the forthcoming financial year and thus proceed with the compilation of a pro-forma draft budget. An example of such a schedule would be as follows - taken from Candoli (1978) :

"Attached is a schedule showing your building's final allocation for autonomous funds. Component parts and bases are shown merely to indicate how the total was derived. Decisions on the allocation of the total are yours.

Explanations for component parts and bases appear below :

ENROLMENT

This is the official, fourth Friday enrolment on which all per student allowances have been calculated.

BASIC

The basic allowance is \$22.245 per student. This represents the initial allowance of \$21.20 plus the allowances for repairs, maintenance contracts and field trip transportation as shown below :

ALLOWANCE	AMOUNT
Initial	\$ 21.20
Repair & maintenance contracts	.445
Field trips	.60
TOTAL	<u>\$ 22.245 "</u>

Figure 7
Elementary school budget plan

Staffing

_____ (_____) _____
 (school) (enrolment)

<u>Grade</u>	<u>Students</u>	<u>Teacher:</u>					
K	_____ (_____) _____	Principal	(_____) _____	x\$32 633	_____		
1	_____ (_____) _____	Psychologist	(_____) _____	x\$27 917	_____		
2	_____ (_____) _____	Secretary	(_____) _____	x\$10 811	_____		
3	_____ (_____) _____	Aide	(_____) _____	x\$ 7 413	_____		
4	_____ (_____) _____	Head custodian	(_____) _____	x\$15 364	_____		
5	_____ (_____) _____	Custodian	(_____) _____	x\$13 087	_____		
6	_____ (_____) _____	Teacher substit.	_____	Days @ \$30.00	_____		
Sp. Ed. resource	_____ (_____) _____	Clerical subst.	_____	Days @ \$27.00	_____		
Sp. Ed. intensive	_____ (_____) _____	Aide substit.	_____	Days @ \$22.00	_____		
Art	_____ (_____) _____	Tutoring	_____	Hrs. @ \$ 9.75	_____		
Reading	_____ (_____) _____	Lunch Aide	_____	Hrs. @ \$ 3.37	_____		
Health/Phys.Ed.	_____ (_____) _____						
Music	_____ (_____) _____					Staff total	\$ _____
Speech/Hearing	_____ (_____) _____						
Gifted	_____ (_____) _____						
Librarian	_____ (_____) _____						
	_____ (_____) _____	Total	_____				
	@\$22314		_____				

N.B. - Show present year data in parentheses

Figure 7
Elementary school budget plan
(continued)

Other expenses

(Elementary schools)

	Books and		Supplies		Equipment				
	materials								
Office	()	—	()	—	()	—	Copying	()	—
General	()	—	()	—	()	—	Professional books	()	—
Kindergarten	()	—	()	—	()	—	Dues and fees	()	—
Art	()	—	()	—	()	—	Text rebinding	()	—
Reading	()	—	()	—	()	—	Test replacement	()	—
Health/P.E.	()	—	()	—	()	—	Confer./Meetings	()	—
Math.	()	—	()	—	()	—	Travel reimb.	()	—
Music	()	—	()	—	()	—	Extra curr. transp.	()	—
Science	()	—	()	—	()	—	Student activities	()	—
English	()	—	()	—	()	—			
Social studies	()	—	()	—	()	—			
Library	()	—	()	—	()	—			
Testing	()	—	()	—	()	—			
Career ed.	()	—	()	—	()	—			
Special educ.	()	—	()	—	()	—			
							Total other expenses		
							Grand Total	()	—
								Previous	This

(Source : Greenhalgh, 1984)

Figure 8
Secondary school budget plan

Staffing

_____ () _____ (School) (Enrolment)							
Alternative education	()	—	Principal, H.S.	()	—	x 38 116	—
Art	()	—	Principal, JR. HI. Sch.	()	—	x 37 800	—
Business education	()	—	Asst. Principal	()	—	x 35 395	—
English	()	—	Psychologist	()	—	x 27 917	—
Foreign language	()	—	Work/Study Counselor	()	—	x 28 867	—
Guidance Counselors	()	—	Activities Coordinator	()	—	x 22 948	—
Health/Phys.Ed.	()	—	Secretary (12 months)	()	—	x 13 843	—
Home economics	()	—	Secretary (10 5 months)	()	—	x 10 811	—
Industrial arts	()	—	Aide	()	—	x 7 413	—
Math	()	—	Head Custodian	()	—	x 17 534	—
Music	()	—	Custodian	()	—	x 13 087	—
Reading	()	—	Teacher Substitutes	—	Days	@ 30.00	—
Science	()	—	Clerical Substitutes	—	Days	@ 27.00	—
Social studies	()	—	Aide Substitutes	—	Days	@ 22.01	—
Spec. educ. resource	()	—	Tutors	—	Hours	@ 9.75	—
Spec. educ. intensive	()	—	Student Aides	—	Hours	@ 3.37	—
Librarian	()	—					
Speech/Hearing	()	—					
Gifted	()	—					
Career specialist	()	—					
	()	—					
			Total				Staff Total \$ _____
							@ \$ 22 314 _____

Figure 8
Secondary school budget plan
 (continued)

Other expenses

(Secondary school)

	Books and		Supplies		Equipment			
	materials							
Art	()	—	()	—	()	—	Text rebinding	() —
Business Ed.	()	—	()	—	()	—	Text replacement	() —
Reading	()	—	()	—	()	—	Copying	() —
English	()	—	()	—	()	—	Professional books	() —
Foreign Language	()	—	()	—	()	—	Dues and fees	() —
Health/Phys.Educ.	()	—	()	—	()	—	Commencement exp.	() —
Home economics	()	—	()	—	()	—	Computer services	() —
Industrial arts	()	—	()	—	()	—	Conf./Staff develop.	() —
Math.	()	—	()	—	()	—	Alt. Ed. Svs. Costs	() —
Music	()	—	()	—	()	—	Extra Curr. salaries	() —
Science	()	—	()	—	()	—	Sports costs	() —
Social studies	()	—	()	—	()	—	Intramural costs	() —
Alternative educ.	()	—	()	—	()	—	Drama costs	() —
Library	()	—	()	—	()	—	Musical prod. costs	() —
Psychological	()	—	()	—	()	—	Gifted services	() —
Special education	()	—	()	—	()	—	Extra curr. transp.	() —
Career educ.	()	—	()	—	()	—		
Work study	()	—	()	—	()	—		
Office	()	—	()	—	()	—		
General	()	—	()	—	()	—	Total expenses (\$)	—
							Grand Total	()
								Previous year
								This year

(Source : Greenhalgh, 1984)

BUDGETING FOR A PROJECT : EXAMPLE

At this point it may be useful to illustrate budgeting in practice by means of a specific example. This example of budgeting for one specific project is taken from the Montclair District Pilot Economics Project, a new programme designed to strengthen economics understanding among students in grades K-9, i.e. kindergarten and the ensuing 9 years, in one school district in the USA (source : Johnson, 1982). The project was to operate for a 2-year period and was to establish an economic resource center, developing a number of instructional units focusing on basic economic concepts, and run a series of in-service training workshops, the project to be spread over a period of three years. The budget for the first year of the project, giving detailed breakdown of "direct costs" was as shown in Figure 9.

It is important that the full budget shows that the project has been costed in that much detail and especially that attention is paid to "on-costs" (additions to salaries such as employee benefits) which are liable to be overlooked. "Direct costs" of the project are to be distinguished from indirect costs which refer to administrative items falling on the education authority. For some purposes a budget summary will suffice, as shown in Figure 10, which shows, for the same figures, the outline breakdown by type of expenditure, without the supporting detail ; Figure 10 also shows indirect costs, estimated at 3 per cent of direct costs.

The project should be costed over the full three years and in total, as shown in Figure 11, despite the obvious problems involved in attempting to do so, notably with regard to the need to estimate the rate of inflation over the ensuing period. Figure 11 brings out the pattern of development over the three years.

The reader wishing to attempt an exercise on project budget costs will find a good example in Johnson (1982). >

Figure 9

Detailed budget of direct costs for Montclair District Economics Project
19X4-19X5 (by object cost categories)

Certificated Salaries -----	\$15,933.60
Project Director @ 120 days @ \$107.78 per day = \$12,933.60	
Budgeted at an average teachers salary (\$19,400 annually). On a daily basis, this is 19,400/180 or \$107.78 per day.	
Substitute Teacher Time @ 60 days @ \$50.00 per day = \$3,000.00	
Ten days each allocated to the five instructional units and another ten days to release a high school economics teacher for work in the resource center. Benefits included in the \$50.00 per day rate.	
Classified Salaries -----	7,185.60
Secretary @ 180 days @ \$39.92 per day = \$7,185.60	
Budgeted at an Office Personnel III rate of \$4.99 per hour of \$39.92 per day.	
Employee Benefits -----	3,247.82
Certified at 14 percent of salaries = \$1,810.70	
Classified at 20 percent of salaries = \$1,437.12	
Supplies and Materials -----	1,900.00
General Supplies = \$1,500.00	
Library Supplies and Postage = \$400.00	
Instructional Materials -----	18,000.00
Acquisition of 1,200 individual items at an average cost of \$15.00 per item	
Contracted Services -----	2,525.00
Evaluation Design = \$1,400.00	
Includes \$1,200 for design and first-year results summary and \$200 to assist with expert panel review process.	
Expert Panel Review = \$500.00	
Outside Consultants = \$625.00	
For assistance with the in-service training classes.	
Travel -----	1,000.00
Includes local travel reimbursement and a single round trip to Washington, D.C., for the project director.	
Capital Outlay -----	1,400.00
Includes microfilm reader and filmstrip projector to be used in the resource center.	
TOTAL DIRECT COST -----	\$51,192.02

Source: Johnson (1982)

Note - "Certificated" staff are those with teaching certificates, i.e. qualified teachers.
"Classified" staff are support personnel, classified by employment rank.

SUPERVISION AIDES

The allowance for supervision aides for those buildings with a hot lunch programme has been calculated on total enrolment at \$16.36 per student. As soon as participation figures are firm, the total allowance will be redistributed.

The allowance for supervision for those buildings with a sack lunch programme has been calculated on the basis of average participation in each building.

OFFICE AIDES AND SUBSTITUTES

The allowance for office aides, overtime, and substitutes is \$ 141.00 per building.

CLUSTER SCHOOL ALLOWANCE

The Cluster School Allowance is \$5,500 per cluster school. This amount is to be redistributed to all buildings in the cluster.

OTHER

The allowance for buildings participating in the University Student Teacher Programme is \$ 3,835.

The allowance for buildings with aides remaining from federally funded programmes is \$ 4,250. This allowance will not be repeated in (following year).

The contingency fund allocation of \$ 15,000 will be distributed to individual buildings based on applications approved by the Elementary Contingency Fund Committee.

SUB TOTAL

This amount represents the total of (previous year) autonomous fund allowances.

ORIGINAL ALLOWANCE

This amount represents initial allocations based on anticipated enrolments and programmes of individual buildings.

DIFFERENCE

This amount represents the difference between original allocations and the revised total of (previous year) autonomous fund allowances. Amounts stated parenthetically will be deducted from your general appropriation, account 1XX.000. Other amounts will be added to account 1XX.000. Such deductions or additions must require your subsequent redistribution of appropriations. Please use a "Budget Transfer Request" form to accomplish your transfers.

(PREVIOUS YEAR) CARRY OVER

This amount represents the cumulative balances of prior years and has already been posted to the account(s) of your choice.

Any allowances for differentiated staffing programmes and/or carry overs for same will be over and above allowances on the attached schedule. You will be contacted individually for differentiated staffing budgets.

Figure 10

Budget summary by object cost for Montclair District Economics Project,
19X4-19X5.

Object Category	Amount (\$)
Certificated salaries	15,933.60
Classified salaries	7,185.60
Employee benefits	3,247.82
Supplies and materials	1,900.00
Instructional materials	18,000.00
Contract services	2,525.00
Travel	1,000.00
Capital outlay	1,400.00
Direct cost	51,192.02
Indirect cost (3 percent)*	1,535.76
TOTAL COST	52,727.78

Intended to cover costs of payroll, resource center space and utilities, and occasional consultant assistance from the district.

(Source : Johnson, 1982)

Figure 11

Budget summary by organizational component for Montclair District Economics Project (in dollars).

	19X4-19X5	19X5-19X6	19X6-19X7	TOTAL
Direction/Evaluation	12,917.70	32,110.28	30,868.61	75,896.59
Resource Center	25,631.62	10,728.42	8,255.95	44,615.99
Instructional Unit development	8,123.20	-	-	8,123.20
In-service training	4,519.50	7,548.45	12,285.26	24,353.21
Direct cost	51,192.02	50,387.15	51,409.82	152,988.99
Indirect Cost (3 percent)*	1,535.76	1,511.61	1,542.29	4,589.66
TOTAL COST	52,727.78	51,898.76	52,952.11	157,578.65

Intended to cover costs of payroll, resource center space, and utilities, and occasional consultant assistance from the district.

(Source : Johnson, 1982)

ZERO-BASED BUDGETING

Zero-based budgeting is another approach that departs from the traditional incremental method. Zero-based budgeting calls for annual review of all programmes from ground zero. In essence, it is simply a yearly review of each programme, involving asking such questions as "Is the programme needed ? ", "Does it contribute to agreed objectives ?", "Could it continue under a reduced budget ?" (Thomas, 1977). This does not imply that budgets of many programmes can be reduced to zero ; rather, in education, the fundamental review implied by zero-based budgeting may involve consideration of alternative teaching strategies or some alternative mix of educational inputs. In the business world, where zero-based budgeting has been developed extensively with successful consequences in terms of reductions in budgets and elimination of waste, it frequently involves a process of rank ordering expenditures in terms of priorities. Some educational systems have made progress on similar lines but as yet not to the same extent as in the commercial world. Thus the essential steps in full zero-based budgeting are :

Yearly review
of each
programme

—

Rank ordering
in terms of
priorities

—

Preparation
of new
budget

PLANNING, PROGRAMMING, BUDGETING, EVALUATION SYSTEM (PPBES)

This is an approach that has attracted much attention in recent years. The essential aspects of PPBES are as follows :

1. A careful specification and a systematic analysis of objectives.
2. A search for the relevant alternatives, the different ways of achieving objectives.
3. An estimate of the total costs of each alternative - both direct and indirect costs, both initial costs and those to which the alternatives commit us for future years, both currency costs and those that cannot be measured in currency terms.
4. An estimate of the effectiveness of each alternative, of how close it comes to satisfying the objective.
5. A comparison and analysis of the alternatives, seeking that combination of alternatives that promises the greatest effectiveness, for given resources, in achieving the objectives (Candoli, 1978).

Such a listing makes it apparent that various of the aspects of PPBES have been in use in education for many years but PPBES does serve to bring them together into a coherent system. The primary distinctive characteristics of PPBES as defined by Hatry and Cotton (1987) are :

1. It focuses on identifying the fundamental objectives of the government [education] system and then relating all activities, regardless of organizational placement, to these.
2. Future year implications are explicitly considered.
3. All pertinent costs are considered - including capital costs as well as non-capital costs, and associated support costs (such as employee benefits, associated vehicle and building maintenance costs) as well as direct costs.
4. Systematic analysis of alternatives is undertaken. This characteristic is the crux of PPBES. It involves : (a) identification of the governmental [educational] objectives ; (b) explicit, systematic identification of alternative ways of carrying out the objectives ; (c) estimation of the total implications of each alternative ;

(d) estimation of the expected results of each alternative ; and
(e) presentation of resulting major costs and benefit tradeoffs among the alternatives along with the identification of major assumptions and uncertainties.

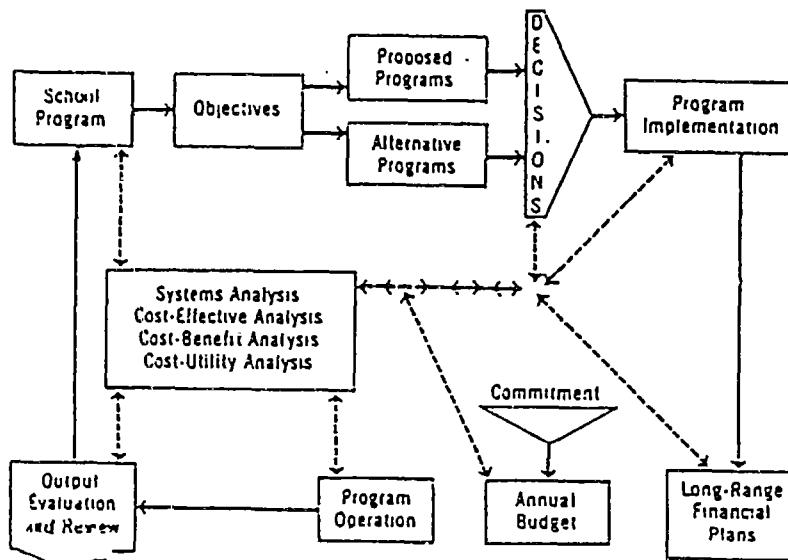
Dr. Selma Mushkin, Director of the State-Local Finances Project of George Washington University, outlines the following system requirements in the preparation for implementing PPBES :

1. Clarifying and specifying the ultimate goals or objectives of each activity for which a government (educational institution) budgets money.
2. Gathering like activities into comprehensive categories or programmes designed to achieve the specified objectives.
3. Examining as a continuous process how well each activity or programme has done - its effectiveness.
4. Analyzing proposed improvements or new programme proposals to see how effective they may be in achieving programme goals.
5. Formulating a plan, based in part on the analysis of proposed cost and effectiveness, that leads to implementation through the budget (Mushkin, 1967).

PPBES can only be as good as the data on which it is based. Five major categories of data must be developed in order to estimate, evaluate, and report within the multiyear framework of PPBES. They pertain to (a) pupils, (b) programmes, (c) personnel, (d) facilities, and (e) finances.

The PPBES process, which is continuous, cyclical, and requires constant feedback into all part of the system, may be illustrated as in Figure 12 (Note especially how decisions are taken in the light of accrued data) :

Figure 12
Planning, Programming, Budgeting, Evaluation System Process



- "Step 1. State measurable objectives and measurable planned accomplishments for a given school with regard to direction, programme, subject area, courses, and activities over a specified period of time - possibly five years.
- Step 2. Assign priorities to the various objectives and planned accomplishments of the school.
- Step 3. Determine alternative plans for achieving the objectives expressed in Step 1 above. Alternative plans would be expressed in terms of inputs and processes over a specified time span.
 Examples of inputs are : staff mix and composition, including the number of paraprofessionals and professionals, and their levels of preparation and experience ; pupil-teacher ratio ; number and types of learning facilities, learning resources, curricula, etc.
 Examples of processes are : instructional methodology, length of period and school day, research and development, in-service training, assignment of teachers, etc.
- Step 4. Assign a dollar estimate to the various alternative plans based upon the inputs and processes of those plans. Remember that the dollar amounts are to be expressed over a possible five-year period.

- Step 5. Select within dollar constraints those alternative plans that appear to foster efficient and effective accomplishment of the predetermined objectives.*
- Step 6. Place the system in operation, that is, the inputs and processes that have been determined and budgeted.*
- Step 7. Analyze and evaluate the outputs of the school, directions, programmes, subject areas, courses and activities. Following evaluation, it may be necessary to change the outputs and processes in order that next year's budget can better achieve the objectives set forth.*
- Step 8. Review the stated objectives set forth in Step 1. This review could result in the changing of previously stated objectives, the reordering of priorities assigned to previously stated objectives, or the continuance of previously stated objectives and their respective priorities.*
- Step 9. Review and continuously prepare alternative plans (inputs and processes) in search of a more efficient and effective means for achieving the stated objectives.*
- Step 10. Return to Step 3 and restart the cycle."*

(Source : Candoli, 1978)

In the 1960s and 1970s, there were high hopes of what might be achieved by the introduction of PPBES but regrettably those hopes have not been realized, mainly because existing budget practices largely remained intact and there was little effective change in the allocation of school resources (Hentschke, 1988). On the other hand, an experiment with introducing programme budgeting in schools in Victoria, Australia, did seem to indicate substantial potential benefits. (Spicer, 1990).

CASH MANAGEMENT

Cash management, which may be defined as the process of managing monies in order to ensure maximum cash availability and maximum yield on investments of idle cash, represents an increasingly important component of financial management. Cash management is concerned with what happens between the time cash is received as revenue and when it is spent ; it is concerned with the conversion of accounts receivable to cash receipts, accounts payable to cash disbursements, the rate at which cash disbursements clear the bank and what happens to the cash in the meantime (Dembowski, 1982). As yet, in most countries cash management will largely be the function of the education authority, at either national or district level, or possibly of the Ministry of Finance, at least in the case of public school systems. Individual private schools may or may not manage their own cash flows, depend on the terms of the Trust or other deed under which they are constituted, but until very recently individual schools in state school systems have rarely had to deal with cash flows other than for the quite small items dealt with under petty cash systems. In the United Kingdom, however, following the Education Reform Act 1988, both grant-maintained schools and city technology colleges are now having to manage their own cash and, e.g., seek to maximize interest earnings on current cash balance.

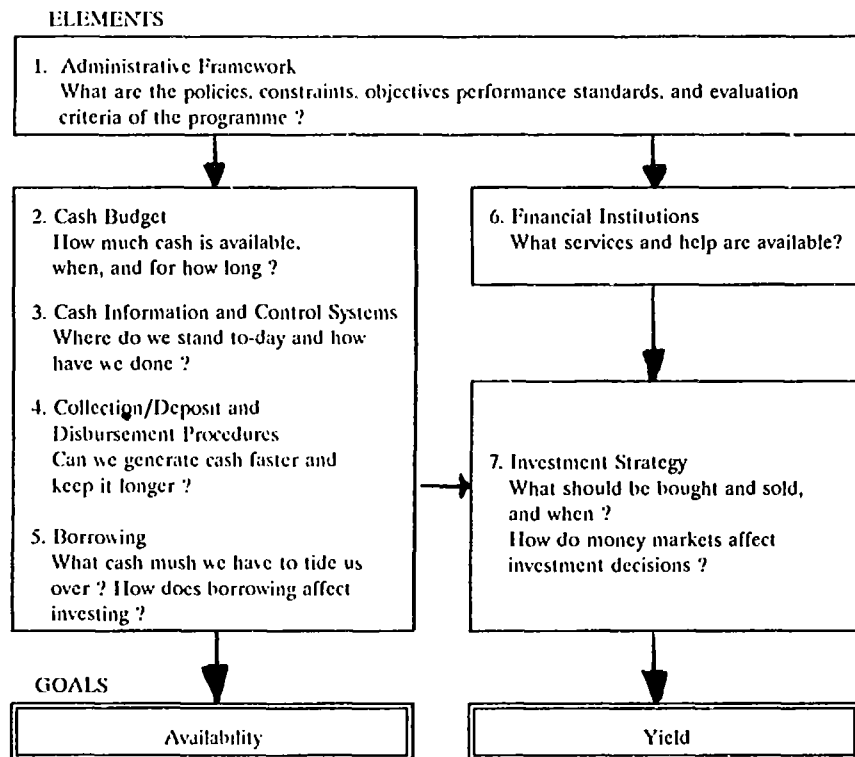
The centralization or otherwise of cash management should not be confused with the question of delegation of financial control, which is entirely separate conceptually. Many school systems are delegating detailed financial control down to individual schools but are almost always retaining, and in some cases reinforcing, the centralized management of cash. It should also be clear that "cash" in this context includes, indeed refers primarily to, sums in district or school bank accounts and not to currency (bank notes) as such, since "cash" in the sense of currency does not feature prominently in financial management systems in education.

A programme of cash management will have two main goals, firstly to secure each day an adequate amount of cash available to meet daily needs, and secondly to earn the maximum feasible return from the investment of the remaining funds available. These two goals are clearly in at least partial conflict, in that the greater the proportion of the relevant funds that is available for immediate use, the smaller the proportion that can be invested profitably, and vice versa. To hold too much as cash would be wasteful, in the sense of foregoing the interest that could otherwise have been earned on the money if invested profitably, but on the other hand an education authority would find it extremely embarrassing to be short of cash to the extent that, for example, it could not pay staff salaries on time : this could also be

expensive in the sense that where contractual obligations had to be met the money would have to be borrowed at short notice and possibly at high rates of interest. The funds not immediately required and thus invested profitably will require a range of investment possibilities, some being cashable at quite short periods of notice, such as 7 day, 14 day, or one month, whereas other funds may be tied up for longer periods such as a year or more. In general the greater the liquidity of the type of investment, the lower the return it will yield, and so an appropriate balance between short-dated and longer-dated bonds or other investments is important. Legal or other requirements normally restrict any investment of educational funds to safe government stocks in order to avoid the risks associated with fluctuations in the share values of industrial and commercial companies.

A diagrammatic summary of the elements and goals of a cash management programme is given in Figure 13, showing how cash-related decisions have to be constantly reviewed in the light of on-going developments.

Figure 13
Elements and goals of a cash management programme



(Source : Hentschke, 1986)

Other goals of a cash management programme should include the minimization of the monetary and manpower costs of the cash management programme and the minimization of borrowing. Non-financial goals should include promoting favorable relations with vendors (of supplies) and banks ensuring the orderly conduct of the financial aspects of the education authority's operations, and building the trust and goodwill of the local community (Dembowski, 1982). The community may perceive a direct link with themselves as taxpayers, as in the U.S.A., or this connection may be more diffuse, as in many other countries.

It follows from the above that there may be advantages in the "pooling" of cash resources between different schools or different education authorities. Such pooling will tend to smooth out fluctuations in cash flow, it permits larger investments which often yield higher rates of return, it simplifies the investment process and should reduce paperwork (Dembowski, 1982). Interest earnings from the pooled investment total can be apportioned pro rata to each account contributing to the pooling arrangement.

Cash budgeting involves answering questions such as :

When are cash receipts expected ?

How long will cash be available ?

Is borrowing required ?

Are there opportunities for investment ?

Cash budgeting is therefore primarily concerned with the timing of receipts and disbursements ; it must be a continuous process, requiring regular updating. Cash budgeting starts with the cash flow schedule, which may be a simple table listing expected receipts, disbursements and net balances by month, as in Figure 14 (making clear the cyclical nature of such fluctuations over the course of the year) or a more detailed listing of receipts and disbursements on a weekly or even daily basis, as in Figure 15 (where the running balance during each month needs to be kept under review).

The time horizon is important in constructing the cash flow schedule : the overall annual cash flow is crucial for any educational authority or institution, since this will indicate periods of potential surpluses and deficits of cash. Subsidiary cash flow schedules for shorter periods, e.g. quarterly or monthly may then be developed but may be very time-consuming, and also possibly less accurate. How much detail should be shown ? This must depend on the circumstances and on the utility of the additional work involved. Figure 14 shows merely total monthly receipts and disbursements over a year with no disaggregation of the data, whereas Figure 15 shows receipts and expenditures, as at periodic dates throughout the three months, disaggregated into major categories, thus giving more precise estimates of future cash needs (Dembowski, 1982).

Figure 14
Sample cash flow pattern

Period	1	2	3	4	5	6	7	8	9	10	11	12	13
Month	Jan.1	Feb.1	Mar.1	Apr.1	May 1	June 1	July 1	Aug.1	Sept.1	Oct.1	Nov.1	Dec.1	Dec.31
Inflow	400	250	400	150	100	50	50	50	150	400	400	50	0
Outflow	200	200	200	200	200	400	100	100	200	200	200	300	0
Netflow	+200	+50	+200	-50	-100	-350	-50	-50	-50	+200	+200	-250	0

Revenues are received by the district on the first day of the month.

Expenditures occur on the first day of the month.

Beginning cash balance of the district on the first day of the year is \$ 50,000.

(Source : Dembowski, 1982)

Figure 15

Sample cash flow chart
for the period July 1 to October 1

Date	Explanation	Estimated Expenditures (\$)	Estimated Revenues (\$)	Running Balance (\$)
July 1	Opening cash balance (not fund balance)			247 000
14	Payroll	37 000		210 000
28	Payroll	40 000		170 000
31	Bills	30 000		140 000
Aug. 1	Debt, Principal & Interest	63 000		77 000
11	Payroll	37 000		40 000
15	Bills	40 000		0
25	Tax Anticipation Note		400 000	400 000
25	Payroll	40 000		360 000
31	Bills	50 000		310 000
Sept. 1	Debt, Principal & Interest	63 000		247 000
1	Payroll	200 000		47 000
10	Bills	40 000		7 000
15	State Aid		350 000	357 000
15	Payroll	200 000		157 000
20	Bills	60 000		97 000
29	Property Tax		1 400 000	1 497 000
29	Pay TAN	400 000		1 097 000

(Source : Dembowski, 1982)

Much will depend on the accuracy of such a record, particularly regarding the timing of incoming and outgoing payments. The timing of major sources of income such as transfers from central government or earmarked taxation receipts should be known with relative certainty as also should major items of expenditure such as staff salaries and possibly capital expenditures and/or debt service charges. The timing of other legal and contractual commitments such as income tax payments to central government, should also be known within reasonable limits but thereafter other cash payments, and perhaps to a lesser extent receipts, may be known with much less certainty. After all such considerations, the end-product of the cash flow pattern displayed in Figure 14 may be as in Figure 16. This particular example, taken from Dembowski (1982), embodies a number of characteristics of the USA school district system, such as the timing of property tax receipts, which will not be applicable elsewhere ; however, the general principles underlying such a chart are universal and similar charts could be drawn up for any other education authorities or institutions. In Figure 16, the solid line indicates income, the dotted line expenditure (the figures being the same as those given

in Figure 14) ; Periods of surplus revenues over expenditures are denoted by S, periods of deficit by D, and the Figure shows the fluctuating nature of these.

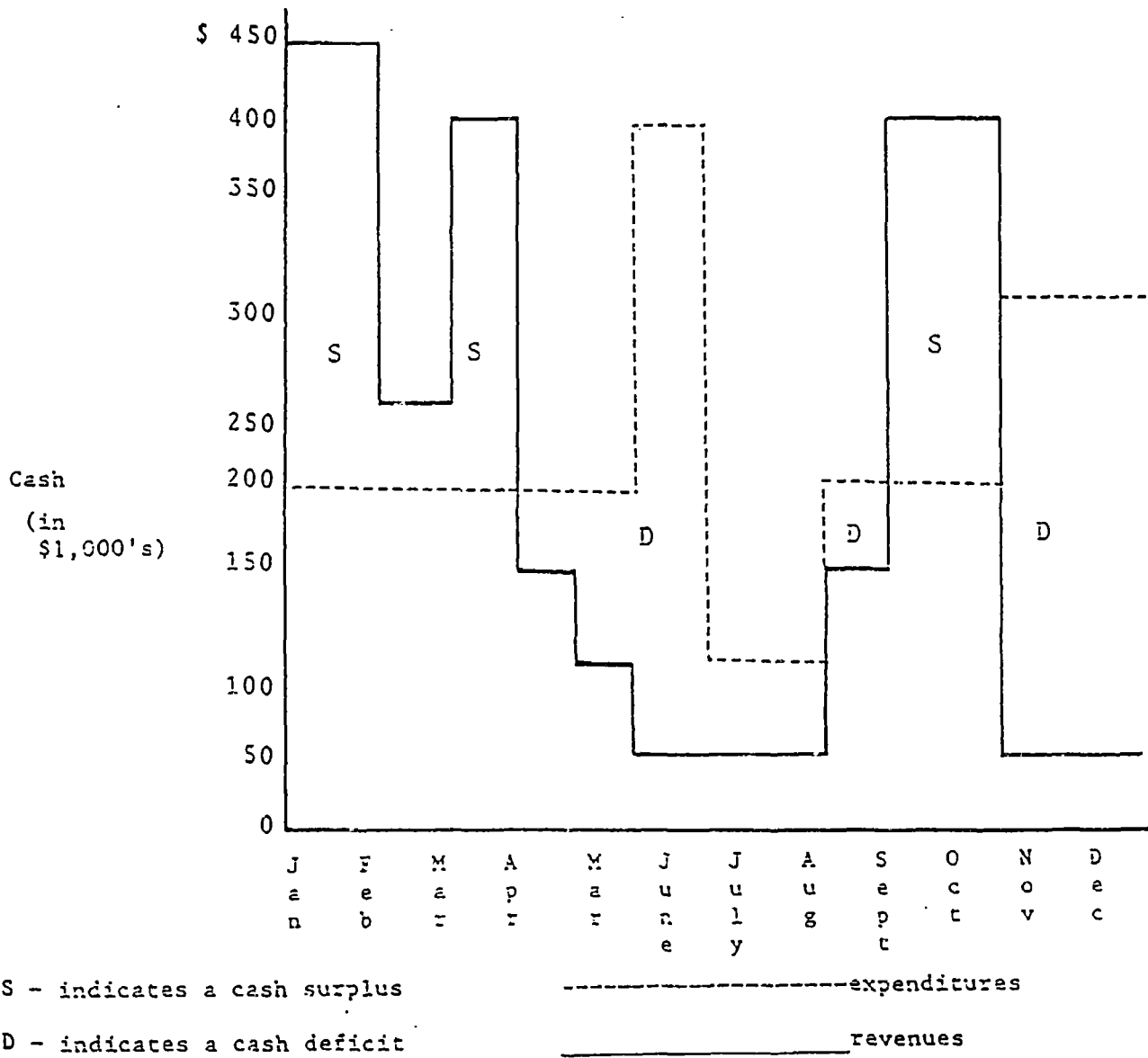
Once the periods of surplus are established with reasonable certainty, steps must be taken to utilize the funds profitably (but safely) in the meantime e.g. by investing them ; similarly, during periods of deficit, funds will either have to be transferred from accumulated surpluses or from other government accounts, or may have to be borrowed. From the data given in Figures 15 and 17, there would be surplus funds to invest from the beginning of the year until the end of June (the deficits incurred in April, May and June having been covered by the surpluses brought forward from January to March). From July to October some borrowing is required, following which there will again be a surplus.

It is not possible or necessary here to explore the finer detail involved in managing cash flows on a day-by-day basis, but mention should be made of one further aspect of the payment of staff salaries, in view of their relative importance. If, as has traditionally been the case in many school systems, staff are paid by cheque, delays will occur in the presentation of these cheques by the members of staff to their bank and the ensuing debiting to the account of the education authority.

Such delays will be small in the case of any one member of staff but in the aggregate will be not negligible for the authority, a possible pattern of such delays being as in Figure 17. Once such a pattern has been established it is liable to remain reasonably regular over time and the authority can count on having the use of such monies over the few days in question before the cheques are debited. It can be shown that over the year the additional interest earned by the authority in this way can amount to some \$4,000 (in the case of the sums included in Figure 17). (Dembowski, 1982). The authority should realize that if it decides to change to a system of directly crediting net salaries to employees' bank accounts on salary pay day, as many education authorities are currently considering or have recently decided to do, then such interest credit will be lost. However, the eventual decision is likely to be swayed by other, arguably more important, considerations, such as ease of access for employees and good employee relations.

A diagrammatic summary of accounting relating to school activities, which for many schools is the extent of their involvement in cash management, is given in Figure 18. : each item can readily be traced backwards to its source and forwards to its place in the eventual year accounts.

Figure 16
Sample cash budget and cash flow pattern



(Source : Dembowski, 1982)

Whether, to what extent, and from which source, the education authority will be able to borrow funds if and when it needs to do so will depend on legal and other constraints and circumstances, the position varying substantially from country to country, or even within a country in the case of federal systems. One peculiarity noted by Dembowski is that sums currently reinvested may earn for the education authority, net, a higher rate of interest than that which has to be paid for cash borrowed. This situation, which is common throughout the USA and may also occur elsewhere, arises because the latter interest cost is tax exempt and therefore net rates can be quit low :

"The 'point spread' or difference between the borrowing and investing rate offers school districts the opportunity to 'make' money by borrowing and then investing a portion of the proceeds. This practice is commonly referred to as 'arbitrage' ".

(Dembowski, 1982)

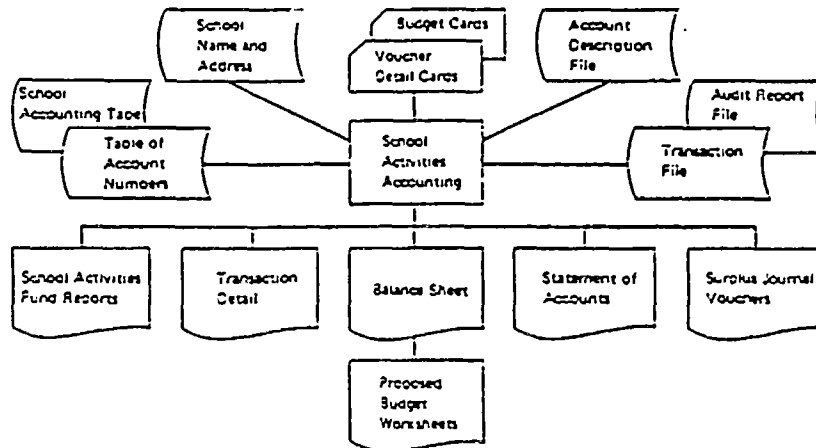
Such arbitrage obviously gives the education authority (school district in the USA) an incentive to increase the scale of both borrowings and investments, but in practice this is controlled by law (e.g. in 1981 New York State law restricted a school district to borrowing one month's expenditure in addition to the anticipated deficit).

Figure 17
Payroll disbursement pattern

Day	Cheques cashed \$	Percent cashed %
Friday	51 000	25.5
Monday	62 000	31.0
Tuesday	33 000	16.5
Wednesday	8 000	4.0
Thursday	5 000	2.5
Friday	5 000	2.5
Monday	20 000	10.0
Tuesday	9 000	4.5
Wednesday	5 000	2.5
Thursday	2 000	1.0
Total	200 000	100

(Source : Dembowski, 1982)

Figure 18
School activities accounting process



Taken from Memphis city School System, USA

(Source : Candoli, 1978)

Most education authorities and/or institutions in the world still have very little if any freedom to invest surplus funds. Where they do have such power, careful strategies are needed relating to the amount of money available to invest, and for how long, current money market conditions, and an appropriate mix of different investment outlets including, for example, sums on deposit (= earning interest) at the bank, short-dated government bonds, longer-dated government bonds, and possibly certain other securities. The primary emphasis must be on safety and the avoidance of capital loss but within those constraints obviously the major aim should be to maximize interest earnings.

Evidence relating to cash management practices on the part of USA school districts is far from favorable :

"School districts have been relatively lethargic concerning their banking business. Studies have shown that :

- ▶ *most school districts make use of only one bank for all their banking needs ;*
- ▶ *many school districts do not use savings accounts ;*
- ▶ *the majority do not bid for banking services but select their commercial bank haphazardly ;*
- ▶ *school business officials do not know why they are being*

- assessed an annual fee for banking services or how that fee is derived ; and*
- ▶ *few business officials realize that there is a minimum or minimum average cash balance requirement with a district's depository account to compensate a bank for its service ...*

Very few school districts now use all of the financial methods suggested in this overview ... As school districts become more sophisticated in cash management, there will be a movement of cash out of the checking accounts into interest-bearing assets. This will reduce the average daily cash balances in the depository accounts, forcing banks to set new cash balance requirements or annual banking fees. School business officials should be aware of what is happening and take an active part in this process. In the future, cash management will play an increasingly important role in the financial picture of school districts."

(Dembowski, 1982)

The above evidence tallies with the results of a U.K. enquiry into the C.N.A.A. (Council for National Academic Awards) which found that substantial sums were held in a bank current account, with consequent loss of potential interest earning.

An example of a Cash Position Report, taken from the records of the Board of Education, South-Western City Schools, USA, is given in Figure 19, with the greater part of the normal instructional and running activities of the school being represented by the General Fund.

From the point of view of financial management, it is important that the periodical transfer of funds from the relevant government agency to the education authority, and from the education authority to individual schools or colleges, should take place without undue delay. A study of one developing country, Brazil, found that where long time lags in such transfers of funds were combined with high rates of inflation, the result was a serious decline in the real values of the sums received, together with further difficulties resulting from the uncertainty as to when, and how much payment in real terms would be forthcoming (World Bank, 1986a).

Figure 19
Example of cash position report

FD	BEGINNING OF YEAR BALANCE	CASH RECEIPTS		CASH DISBURSEMENTS		FUNDS AVAILABLE	INTERIM FUNDS	ACTIVE FUNDS
		MONTH-TO-DATE	YEAR-TO-DATE	MONTH-TO-DATE	YEAR-TO-DATE			
General Fund								
01	602,220.52	591,389.87	926,069.46	0.00	358,296.44	1,169,993.54	350,000.00	819,993.54
Bond Retirement Fund								
02	23,642.49	19,555.50	19,555.50	0.00	0.00	43,197.99	0.00	43,197.99
Permanent Improvement Fund								
03	81,248.91	0.00	0.00	0.00	0.00	81,248.91	0.00	81,248.91
Buildings Fund								
04	808.23-	0.00	0.00	0.00	0.00	808.23-	0.00	808.23-
Food Services Fund								
	9,463.43	44,405.38	119,088.45	0.00	97,617.80	30,934.08	0.00	30,934.08
Uniform School Supplies Fund								
09	36,123.80	15.00	3,874.40	0.00	0.00	39,998.20	0.00	39,998.20
State Auxiliary Services Fund								
300	15,911.69	0.00	0.00	0.00	8,146.38	7,765.31	0.00	7,765.31
State DPPF Fund								
310	14,000.00	0.00	0.00	0.00	0.00	14,000.00	0.00	14,000.00
State DPPF Fund								
312	94.84	0.00	0.00	0.00	0.00	94.84	0.00	94.84
State DPPF Fund								
313	11,085.02	0.00	15,695.86	0.00	8,359.57	18,421.31	0.00	18,421.31
371	1,694.32-	0.00	0.00	0.00	0.00	1,694.32-	0.00	1,694.32-
Fed NDEA III Fund								
400	18.79	0.00	17,769.06	0.00	0.00	17,787.85	0.00	17,787.85
Fed NDEA III Fund								
401	19,013.66	0.00	9,577.00	0.00	0.00	28,590.66	0.00	28,590.66
Fed NDEA III Fund								
402	15,329.51-	0.00	0.00	0.00	0.00	15,329.51-	0.00	15,329.51-
Fed ESEA I Fund								
410	68,486.82-	0.00	0.00	0.00	0.00	68,486.82-	0.00	68,486.82-
Fed ESEA I Fund								
411	89,311.77	0.00	0.00	0.00	0.00	89,311.77	0.00	89,311.77
Fed ESEA I Fund								
416	7,472.88	0.00	0.00	0.00	0.00	7,472.88	0.00	7,472.88
Fed ESEA I Fund								
417	5,917.36	0.00	0.00	0.00	0.00	5,917.36	0.00	5,917.36

Figure 19
Example of cash position report (continued)

FD	BEGINNING OF YEAR BALANCE	CASH RECEIPTS		CASH DISBURSEMENTS		FUNDS AVAILABLE	INTERIM FUNDS	ACTIVE FUNDS
		MONTH-TO-DATE	YEAR-TO-DATE	MONTH-TO-DATE	YEAR-TO-DATE			
Fed ESEA I Fund								
418	14,019.15-	0.00	68,987.09	0.00	2,237.60	52,730.34	0.00	52,730.34
Fed ESEA II Fund								
420	873.00	0.00	0.00	0.00	0.00	873.00	0.00	873.00
Fed ESEA II Fund								
421	325.12	0.00	0.00	0.00	0.00	325.12	0.00	325.12
Fed ESEA II Fund								
423	396.43	0.00	0.00	0.00	0.00	396.43	0.00	396.43
Fed ESEA II Fund								
424	1,156.92	0.00	0.00	0.00	0.00	1,156.92	0.00	1,156.92
Fed ESEA III Fund								
430	100.75-	0.00	0.00	0.00	0.00	100.75-	0.00	100.75-
Fed ESEA III Fund								
431	26,029.18	0.00	0.00	0.00	815.48	25,213.70	0.00	25,213.70
Fed ESEA V Fund								
440	14.40	0.00	0.00	0.00	0.00	14.40	0.00	14.40
Fed ESEA VI Fund								
452	9,434.82	0.00	0.00	0.00	373.50	9,061.32	0.00	9,061.32
Fed Head Start Title II-A Fund								
491	14,283.91	10,000.00	10,000.00	0.00	2,582.95	21,500.96	0.00	21,500.96
Fed Head Start Title II-A Fund								
496	2,435.83	0.00	0.00	0.00	0.00	2,435.83	0.00	2,435.83
Fed Follow Through Title II Fd								
500	6,935.99-	0.00	0.00	0.00	0.00	6,935.99-	0.00	6,935.99-
Fed Adult Basic Ed Fund								
534	941.70	0.00	0.00	0.00	284.35	657.35	0.00	657.35
Fed Adult Basic Ed Fund								
535	70.00-	0.00	0.00	0.00	0.00	70.00-	0.00	70.00-
Total	863,971.70	665,365.75	1,190,616.82	0.00	478,314.07	1,575,774.45	350,000.00	1,225,774.45

South-Western City Schools
Bank Cash Position Report

Month Ending 02-29-76 Page 1 02-10-76

FD	BEGINNING OF YEAR BALANCE	CASH RECEIPTS		CASH DISBURSEMENTS		FUNDS AVAILABLE	INTERIM FUNDS	ACTIVE FUNDS
		MONTH-TO-DATE	YEAR-TO-DATE	MONTH-TO-DATE	YEAR-TO-DATE			
City National								
911	500.85	0.00	300,000.00	0.00	0.00	300,500.85	0.00	300,500.85
Huntington National								
921	862,970.35	665,365.75	890,516.82	0.00	478,814.07	1,274,773.10	350,000.00	924,773.10
Huntington National								
923	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ohio National								
931	500.50	0.00	0.00	0.00	0.00	500.50	0.00	500.50
Total	863,971.70	665,365.75	1,190,516.82	0.00	478,314.07	1,575,774.45	350,000.00	1,225,774.45

(Source : Board of Education, South Western City Schools, as reproduced in Candoli, 1978)

CONTROL OF COSTS

A co-ordinated approach to financial management must include effective control of costs. This is not the place to review all aspects of educational costs, which have received extensive treatment in the considerable literature that has developed in many countries - as detailed in the literature review given in Hough (1981). From the point of view of financial management, what is important is the effective control of costs, to keep costs down to reasonable levels, and to eliminate waste.

At this point it is necessary to outline a number of basic concepts relating to costs, as follows :

Total costs :

The sum of all the expenditures for a given budgetary period, either estimated or actual (out-turn).

Capital versus recurrent costs :

Recurrent (sometimes simply "current") costs cover staff costs, fuel and supplies (such as paper) largely used up within the budget period, whereas capital costs relate to buildings, land, and other expenditures the benefits of which continue to be available for a number of years. The distinction between the two cannot be hard and fast as some items (such as text-books) may be said to occupy an intermediate position ; a further example would relate to furniture which in some school systems is treated as capital if in a new building but as recurrent if it is to replace older furniture in an existing building. A general principle is that recurrent costs should always be paid for during the budgetary year, whereas large capital costs are often spread (or "amortised") over a number of years. In the U.K., for example, capital costs on a new building must normally be cleared within a period of 40 years, which is assumed to be the useful life of the building.

Unit costs per student :

Derived from simply dividing total expenditure by number of students, this is often the most widely used and most useful indicator in costing studies, facilitating, as it does, comparisons between schools (including between schools of different sizes) between regions, between levels of education, and (after due allowance has been made for inflation) over time. Generally the calculations are straightforward but occasionally there are complications over differential weightings for different groups of students, and over whether to calculate costs per student graduated rather than per student enrolled. Unit costs may

also be termed average costs in order to distinguish them from marginal costs.

Marginal costs :

The costs of an additional class, or an additional course of subject, or an additional pupil, at the margin. Can be related mathematically to average costs in that marginal must be above average whilst average is rising but marginal must be below average whilst average is falling. In some instances, such as the addition of a marginal student to a class which is not full, marginal costs may be very low and may even be regarded as nil, although they can never in fact be nil : the inclusion of such additional pupils will also have the effect of reducing average costs.

Resource costs versus money costs :

Educational inputs measured in physical units (e.g. number of teachers or text-books) are termed real resource costs, in contrast to those expressed in their corresponding monetary values which are financial costs or money costs.

Nominal monetary costs versus real costs :

In any comparisons over time, allowance has to be made for the effect of inflation in changing the purchasing power of money. Correction to allow for such effect, via deflation by a suitable price index, translates the original nominal or monetary values into real values. (Coombs & Hallak, 1972 ; Hough, 1981).

Education expenditure totals are always dominated by total salaries costs, which relate, at each grade and position, to salary levels multiplied by numbers of staff. Salary levels will largely be outside the control of the Ministry of Education, usually being determined by the Ministry of Finance on behalf of the government centrally. In francophone Africa, for example, salaries for all public servants including teachers are decided together (Eicher, 1984). Numbers of staff will relate to pupil/teacher ratios and pupil/non-teaching staff ratios, which should ideally be determined on educational rather than financial grounds. In recent years, however, consequent upon financial constraints, a number of countries have investigated whether such staffing ratios can be worsened, in the case of both teaching and non-teaching staff, with little or no effect on the education that the children receive but with considerable financial saving (which should then be available to spend elsewhere in the education service). In this respect looking at overall staffing ratios, such as the pupil-teacher ratio, may be misleading in that the situation may vary greatly from, for example, the often overcrowded urban school with high pupil-teacher ratio to the small rural school with relatively small numbers of children in each class and

consequently low pupil-teacher ratio. The effect of seeking to move towards larger pupil/teacher ratios will be very different in these two cases and may be difficult if not impossible to achieve in the case of the small rural school.

Much attention has also been paid to the question of economies of size in education and many studies in many different countries have attempted to arrive at an optimum school size (optimum from a financial point of view). Clear evidence exists, from many countries, that small schools are, when costed per pupil, very expensive to run, and that costs per pupil decline as school size (in terms of numbers of pupils) increases. Up to what point and do costs per pupil eventually start to increase? Here the evidence is much less certain and there are different findings in different countries. In considering school size, cost figures alone are obviously inadequate and account must be taken of varying curricula, educational standards, variety of courses, equipment and facilities, all of which are typically difficult to include in statistical studies. Educational achievements may also vary with size but evidence on this point is uncertain.

Inflation is a key element in all such cost studies: any consideration of educational costs over time is dominated by the extent to which real values (= effective purchasing power) have been dominated by inflation. In recent years, in many developing countries, educational budgets have usually failed to keep pace with rising costs so that expenditure per pupil has declined in real terms, often seriously so. This may mean the erosion of teachers' salaries, as shown, for a number of countries over a period of 15 years, in Figure 20:

Figure 20
Average salaries of secondary school teachers at constant prices

	1970	1985
Congo	100	28
Ivory Coast	100	60
Indonesia	100	39
Mexico	(100)*	35
Togo	100	50
Zambia	100	41

* : 1975

(Source : IIEP)

Such figures will have obvious knock-on effects on the perceived attractiveness of teaching as a career.

In the case of non-salary expenditure, budget erosion has meant that less has been available to spend per pupil on text-books, other teaching

materials and general classroom requirements, with possibly important effects for educational efficiency. In many classrooms in Third World countries the teacher has available no teaching materials of any kind and one is bound to ask how effective education can be in such circumstances.

From the point of view of financial management, in developing countries, particular care, and stringent control, will be needed in the case of any purchases from overseas in hard currencies, which may be difficult to obtain : at the same time, exchange rate fluctuations may lead to the eventual cost in local currency being considerably in excess of what had originally been estimated.

It should follow from the above that detailed studies of costs should be an integral part of good financial management. To this end, Coombs and Hallak (1972) suggest that it will be necessary to have available the following statistical indicators :

1. The ratio of educational expenditures to the GNP and to total public expenditures.
2. The ratio of teacher costs to other recurrent costs.
3. The comparative level and composition of unit costs per student in rural vs. urban schools.
4. The comparative cost per student in primary, secondary, and post-secondary education.
5. Comparative costs per student (teaching and non-teaching, recurrent and capital) of day schools and boarding schools.
6. Comparative costs of full-time and part-time instruction, or of formal technical schools vs. on-the-job training schemes.
7. The theoretical cost of a primary school graduate (cost per year X normal number of grades) as against the actual cost per graduate (allowing for dropouts and grade-repeating).
8. The comparative costs and composition of undergraduate and postgraduate university students, broken down by major fields of study.
9. The relative size of classes in different types of institutions and in various subject areas.
10. Indicators of space and equipment utilization.

and they go on to comment :

"Unit cost figures and ratios such as these do for the educational diagnostician what X-ray photos do for the medical diagnostician ; they reveal what is going on internally, how the patient is faring, and what remedial actions may be needed"

(Source : Coombs and Hallak, 1972)

There are a number of practical steps that developing countries can consider taking in order to increase cost-effectiveness in education. In connection with recurrent costs, Chisman (1987) lists the following :

Salaries

- | | | |
|--------------------------|---|--|
| <i>Teachers</i> | - | <i>Where possible, use specialist teachers only for specialist subjects.</i> |
| | - | <i>if an individual school's demand for specialist teachers is too low, share specialists between schools.</i> |
| | - | <i>Reduce costs of long pre-service training by providing in-service and on-the-job training.</i> |
| <i>Technical Support</i> | - | <i>Employ technicians and supporting staff to relieve specialist teachers of routine work.</i> |
| | - | <i>Require students to assist in workshop maintenance and repair.</i> |
| <i>Administration</i> | - | <i>Establish procedures for stock control, purchasing, etc.</i> |

Non-Salaries

- | | | |
|--------------------------------|---|---|
| <i>Teaching</i> | - | <i>Use locally-available materials.</i> |
| <i>Materials</i> | - | <i>Buy materials in bulk.</i> |
| <i>Maintenance and Repairs</i> | - | <i>Decentralize maintenance and repair procedures, or use contract maintenance units.</i> |
| | - | <i>Purchase equipment that is cheap to maintain.</i> |
| | - | <i>Train teachers in basic maintenance and repair.</i> |
| <i>Administration</i> | - | <i>Provide incentives for school managers to save money."</i> |

Cost accounting systems have become prominent in a number of countries since the 1970s. They seek to design accounts which identify the cost data required for decision-making purposes, which should relate to the objectives of the institution or school system. Cost accounting should include the controversial question of the allocation of indirect costs. Properly used, it should affect activities and behaviors within institutions (Campbell, 1985).

ACCOUNTING AND DOUBLE-ENTRY BOOK-KEEPING

"School accounting has been defined as recording and reporting activities and events affecting personnel, facilities, materials, or money of an administrative unit and its programs. Specifically, it is concerned with determining what accounting records are to be maintained, how they will be maintained, and the procedures, methods and forms to be used ; recording, classifying and summarizing activities or events ; analyzing and interpreting recorded data ; and preparing and issuing reports and statements which reflect conditions as of a given date, the results of operations for a specific period, and the evaluation of status and results of operations in terms of established objectives."

(Source : Adams et al., 1967)

The above definition makes clear that (i) accounting relates to both operational inputs (money, material) and the school's teaching programme, (ii) accounting encompasses recording, classifying, analyzing, and interpreting data, (iii) conditions are reported as at a given date, and (iv) results of operations are evaluated in relation to known objectives.

Candoli (1978) specifies the objectives of school accounting as :

1. Maintaining an accurate record of significant details in the business transactions of the school system.
2. Providing a basis and medium for planning and decision-making by both policy-making and administrative bodies at local, state, and federal levels.
3. Providing a control system to assure the appropriate use of resources in the educational enterprise.
4. Expediting the process of setting priorities : establishing, analyzing, and selecting alternatives in the budgeting process ; and establishing an operational blueprint for the school system.
5. Providing a medium for reporting the financial condition of the school system to the patrons of the school district, as well as to other groups and agencies at the local, state, and federal levels. This is done for purposes of planning and policy-making, accountability, control, and comparative study.
6. Providing basic input information to calculate and extend school district budgets, tax levies, and state and federal subventions or transfer payments.

Education accounts, whether they relate to a school, a school district, or an education authority, are normally kept using the principles of double-entry book-keeping (Tronc, 1977), as is the case with accounts kept by most other organizations. The term double-entry simply refers to the fact that each transaction is recorded twice, because each transaction involves at least two accounts.

Each entry is recorded first in a journal, which is really a diary to record financial transactions as they occur (e.g. Cash Receipts Journal, Cash Payments Journal). They are then transferred or "posted" to the ledger accounts, which will be kept separately for assets (Cash at Bank Account, Accounts Receivable Control Account) and liabilities (Accounts Payable Control Account), the ongoing balance between assets and liabilities being shown in the accumulated fund account. Other ledger accounts include revenue accounts, such as fees (Revenue) account and expenditure accounts, such as school equipment (Expenditure) account. Each ledger account has a debit and a credit column, debit on the left, credit on the right. Debit and credit columns are used to show increases or decreases in the accounts. Whereas asset accounts are increased by debits and decreased by credits, liability accounts are increased by credits and decreased by debits ; the accumulated fund account is increased by credits and decreased by debits.

Any credit in one account must be offset by a debit in another, hence the double-entry principle. For example, when school equipment worth \$100 is bought from Company X on charge account, the two accounts involved are school equipment (Expenditure) account and Company X account, a liability account. The former is debited with \$100 to show the increase in expenditure and the latter is credited to show an increase in liability (Tronc, 1977). Reference columns are used in both the journals and ledger accounts to show the source of entries and to indicate whether or not the journal entries have been transferred or "posted" to the ledger accounts. The ledger account number is shown in the reference column of the journal, and in the ledger account the page number of the journal is recorded.

The two statements which follow in Figures 21 and 22, which are taken from Tronc (1977), give examples of journal entries and the subsequent posting from the journals to the ledger accounts. The reader is invited to trace the sequence of operations by means of the arrows, and to note that every debit has a corresponding credit.

Fees Journal Page 3

Date	Student's Name	Ref.	Memorandum of Fees No.	Amount
July 1	Student A	GL08	123	600
	Student B	GL09	124	600
		GL05		<u>600</u>
			Total	1200

Cash Receipts Journal Page 1

Date	Particulars	Ref.	Rec. No.	Fees Received	Deposit
July 28	Student A	GL08	541	600	600
		GL01			Total 600

General Ledger

Cash at Bank Account (Extract) No. 01

Date	Particulars	Ref.	Debit	Credit	Balance
July 31	Fees	CRJ1	600		600 DR

Student A. Account No. 08

Date	Particulars	Ref.	Debit	Credit	Balance
July 1	Fees	FJ3			600 DR
28	Cash	CRJ1	600	600	NIL

Fees (Revenue) Account No. 05

Date	Particulars	Ref.	Debit	Credit	Balance
July 31	Total fees charged	FJ3		1200	1200 CR

Student B. Account No. 09

Date	Particulars	Ref.	Debit	Credit	Balance
July 1	Fees	FJ3	600		600 DR

Purchases Journal Page 4

Date	Supplier's name	Ref.	Order No.	Supplies Invoice No.	Amount of Invoice	Analysis of purchase	
						School Equipment	Consumable Stores
July 10	Scurr Bros	GL10	11	6431	\$80	\$80	
12	Waltons	GL11	12	824	\$30		\$30
					\$110	\$80	\$30
						(GL06)	(GL07)

Cash Payments Journal Page 2

Date	Particulars	Reg.	Cheque	Amount
July 20	Scurr Bros	GL10	126752	\$80
		GL01		
				Total \$80

General Ledger

Cash at Bank Account (Extract) No. 01						Scurr Bros Account No. 10					
Date	Particulars	Ref.	Debit	Credit	Balance	Date	Particulars	Ref.	Debit	Credit	Balance
July 31	Payments	CPJ2		80	80 CR	July 10	Purchases	PJ4	80	80	80 CR
						20	Cash	CPJ2			NIL

School Equipment (Expenditure) Account No. 06						Waltons Ltd Account No. 11					
Date	Particulars	Ref.	Debit	Credit	Balance	Date	Particulars	Ref.	Debit	Credit	Balance
July 31	Purchases	PJ4	80		80 DR	July 12	Purchases	PJ4		30	30 CR

Consumable Stores (Expenditure) Account No. 07					
Date	Particulars	Ref.	Debit	Credit	Balance
July 31	Purchases	PJ4	30		30 DR

65

(Source : Tronc, 1977)

Figure 22

Figure 23, also taken from Tronc (1977), relates to the fact that the general ledger accounts should be balanced at regular intervals, possibly quarterly, the list of such balances being termed a trial balance. In the trial balance, the total of all debit balances should equal the total of all credit balances. The statement shows accounts from the general ledger, leading to the trial balance shown in the bottom right corner.

As revenue accounts and expenditure accounts are temporary accounts whose balances will increase or decrease the balance of the accumulated fund account, general journal entries are prepared at regular intervals to transfer the balances of revenue and expenditure accounts to the accumulated fund account. The journal entries are then transferred to the ledger accounts. After the transfer or "posting", the revenue and expenditure accounts are closed (with nil balance) and the accumulated fund account is increased by the revenues and decreased by the expenditures. Another trial balance may then be prepared from the general ledger accounts. In this trial balance, only asset accounts, liability accounts and accumulated fund account remain, as all the revenue and expenditure accounts are now closed (Tronc, 1977).

The accounts included here were prepared following the cash basis accounting method, under which revenues are taken into account when they are received, and expenditures are taken into account when they are paid. This approach is normally adequate for a school. The principal alternative is the accrual accounting basis, in which revenues are reported in the period in which they are earned, and expenses incurred to earn the revenues are reported in the same period, hence the need to calculate depreciation, prepaid expenses, and accrued incomes. Many schools and other non-profit organizations also use fund accounting as mentioned previously.

The reader wishing to attempt an exercise relating to double-entry book-keeping will find a suitable example in Tronc (1977).

Schools now increasingly utilize fund accounting. A fund is a self-balancing set of accounts that includes resources and related liabilities, reserves, and related bonds or other government stock. The need for separated funds stems from the desire to monitor use of selected revenue sources. Within an education authority multiple funds may be in operation and the budgeting process must indicate which parts of each programme or activity are to be financed from each separate fund, to enable there to be separate revenue and expenditure budgeting for each fund. The purpose of fund accounting is to ensure that the funds are used only for the purpose specified (Tronc, 1977).

Cash at Bank Account No. 01

Date	Particulars	Ref.	Debit	Credit	Balance
July 1	Balance	b/f	800		800 DR
31	Accounts Receivable	CRJ1	600		1400 DR
31	Accounts Payable	CPJ2		80	1320 DR

Fees (Revenue) Account No. 05

Date	Particulars	Ref.	Debit	Credit	Balance
July	Fees charged	FJ3		1200	1200 CR

Accounts Receivable Control Account No. 02

Date	Particulars	Ref.	Debit	Credit	Balance
July 31	Fees	FJ3	1200		1200 DR
31	Cash	CRJ1		600	600 DR

School Equipment (Expenditure) Account No. 06

Date	Particulars	Ref.	Debit	Credit	Balance
July 31	Purchases	PJ4	80		80 DR

Accounts Payable Control Account No. 03

Date	Particulars	Ref.	Debit	Credit	Balance
July 31	Purchases	PJ4		110	110 CR
31	Cash	CPJ2	80		30 CR

Consumable Stores (Expenditure) Account No. 07

Date	Particulars	Ref.	Debit	Credit	Balance
July	Purchases	PJ4	30		30 DR

Accumulated Fund Account No. 04

Date	Particulars	Ref.	Debit	Credit	Balance
July 1	Balance	b/f		800	800 CR

Trial Balance as at 31 July

Accounts	Acct. No.	Debit	Credit
Cash at Bank	01	1320	
Accounts Receivable	02	600	
Accounts Payable	03		30
Accum. Fund	04		800
Fees (Revenue)	05		1200
School Equip. (Exp.)	06	80	
Cons. Stores (Exp.)	07	30	
		2030	2030

The more common types of funds typically found are as follows :

General fund :

Used to account for all financial transactions not properly accounted for in another fund.

Capital projects fund :

Usually financed from separate capital sources such as earmarked grants, is used for acquisition of fixed assets such as land and building or extensions to existing buildings.

Debt-service fund :

Where debt servicing is a function of the school or education authority (which it often is not), this fund is used for the payment of interest and principal on long-term debt.

Student activity fund :

Relates to inter-school activities customarily financed by fees and contributions from the families of students.

MANAGEMENT INFORMATION SYSTEMS

As financial management has become increasingly complex, it has had to rely on increasingly sophisticated management information systems (M.I.S.). Various computer systems have developed software packages to cater for the M.I.S. needs of education managers and accountants, and such systems are now in use in all developed countries and some developing countries. Many developing countries are currently in the process of introducing the use of computers into previously hand-compiled statistical and financial record systems, greatly improving speed of availability and reliability, and thus enhancing financial management efficiency.

The fully-developed M.I.S. is neither merely the computerization of clerical work, nor does it provide ready answers to complex problems ; rather it becomes "...a facilitating system for developing decisions in planning, organizing, controlling and initiating courses of action" (Dembowski, 1986). The M.I.S. is only as good as its underlying data and the manipulation or processing of all such data needs careful attention. Dembowski (1986) categorizes the major points as :

Storage. The "birth" of data is the result of some action that is either observed or recorded in the environment surrounding the organization or within the organization itself. Before data may be manipulated or utilized, they must first be recorded in the human mind or in an electrical or mechanical device.

Conversion. Data are usually converted from storage to some more convenient form, such as documents, reports or computer input.

Transportation. Data are constantly being transported from source to storage to processing to user to storage, and so on.

Reproduction. Data are often not stored in a form that is readily interpretable. Storage on tape, on cards, in files or on disks often must be reproduced in different form. Many more copies may be required than exist in storage. Backup data which are often required by law in case of loss of original data, is generally desirable.

Classification. Data are often accumulated at random and must be sorted to be useful. Even data that have been sorted and classified may be needed in a different form. This leads to data base management systems within the MIS.

Synthesis. Aggregation of many pieces of data to structure a meaningful whole of complete report is often required.

Manipulation. Quantitative data must often be operated upon by adding, subtracting and so on, to change their form or develop their meaning through formulas or equations. Statistical methods are often used to define the limits and parameters of the data sheet.

Utilization. After the data are put into a suitable form, they can be retrieved as information for the decision maker, when needed.

Evaluation. The value of data depends on their accuracy, reliability and time reference as well as on the needs of potential users. There is an economic aspect of the cost of storage versus the value of current data and future data that could be stored. Data filed should be continually monitored to eliminate useless and low priority data.

Destruction. Data records may be stored again or destroyed following their evaluation or use. Destruction of data records may occur on a purely routine basis following on-time use or in the review of old records. Destruction is, of course, the end of the life cycle of data.

While the development, design and operation of the MIS must take into account all of these processing steps, storage and retrieval require special attention."

Quite sophisticated Management Information Systems are now in use in a number of countries in Asia and the Pacific region, especially in Asean States. In central and South America, Mexico, Costa Rica, Colombia, Chile, Brazil, Peru, Panama and Guatemala have all been experimenting with improved Management Information Systems (Shiefelbein, 1987). On the other hand, a study of developing countries in Eastern Africa found that, in all the countries studied, little or no financial data relating to education was collected on a regular and systematic basis (Wolff, 1984).

AUDITING

Auditing is a logical and integral part of financial responsibility. An audit is a study of an accounting system in general and of specific accounts in particular, with a view to verifying their accuracy and completeness. Depending on local regulations and circumstances, an audit may include checks on the legality of expenditures as well as on the accuracy of the many entries and calculations.

Internal audits are conducted by an appropriate official from within the organization or education authority, who would report directly to the education authority. A check may be made on figures in the accounts in order to prepare various financial reports. External audits, on the other hand, are conducted by individuals from outside the school system, often either government auditors nominated by the relevant government department, such as the Treasury, with ultimate responsibility for all official accounts, or private firms of auditors contracted by the latter.

The internal audit, conducted by employees of the school district or education authority, is involved in the problems of safeguarding the school district's financial resources ; the internal auditor monitors the operation of the accounting system. The internal audit function may be on-going throughout the year. The annual external audit, by contrast, examines whether the annual financial statements accord with generally accepted auditing standards and general accounting principles. It thus brings a measure of comparability as between educational and other accounting systems (Tidwell, 1986).

Audits may be pre-audits (conducted before a transaction is completed, to check that it is appropriate), post-audits (conducted after a series of transactions has been completed, such as at the end of the fiscal year), or continuous audits (a form of constant monitoring by large organizations to check on their net worth or cash flow). The best known of these, and the one that receives most publicity (occasionally of an adverse nature) is the post-audit.

Audits should be seen in a positive light, in that they can improve practices and build bridges of confidence by ensuring accuracy and validity.

Given the differentiation between internal and external auditing, the school business administrator's responsibility here is twofold. The administrator frequently has the responsibility of seeing that internal audits are conducted, in order to assure the adequate functioning of the financial and business system, and to monitor the system in order to provide planning

data to the administrative team. The status of the several funds and accounts and the cash flow will determine, for example, whether money should be borrowed to meet the monthly payroll, or whether a short term investment in treasury bills is possible.

The responsibility of the business administrator and other fiscal officers is indirect and supportive in cases of external audits. Especially in state mandated audits, the business administrator's activities are usually limited to providing the external auditor with ready access to information needed. Auditors need not only the accounts and previous financial reports, but also supportive information such as the vouchers, the minute book of the board of education (showing resolutions and authorizations for financial transactions), the school district policy manual and personnel records (showing certification and eligibility of personnel for various positions at given salary levels), the insurance register (showing policies covering only insurable risks), and the like (Candoli, 1978).

At this point it should be noted that the increasing delegation of budgets to schools is liable to lead to the need for a much enhanced auditing function.

This section has dealt with the financial audit, as distinct from the educational audit ; the latter is an attempt to assess and quantify the educational achievements of the school or education authority.

An OECD comparative study of finance for primary education found a wide variety of mechanisms in use in different countries to distribute funding to schools, with the twin equity aims of reducing disparities in resource allocation across areas and localities, and improving the extent to which sub-groups with special needs have access to supplementary resources, often utilizing some form of pupil-weighted system. Three principal approaches to equalization were found in the various countries studied : equalization of tax bases to support education (e.g. in the U.K., Australia and West Germany), equalization of per pupil or per capita expenditures (e.g. in USA and Canada), and equalization of physical inputs, particularly teacher services (e.g. in the Netherlands, Sweden and Norway). Some systems concentrated on block grants, others on specific grants. All systems were found to be capable of achieving their objectives, given appropriate conditions (Noah and Sherman, 1979).

In many countries, as the world wide economic recession in the 1980s led to cuts in educational expenditure in real terms, there was increased questioning of the criteria used for allocating educational resources (Wirt and Harman, 1986).

The question of the formulae used to allocate funds to schools and to school districts became a matter of great contention in the USA where there was

"a frenetic period of litigation to overturn those state school finance systems which produced wealth-related disparities in per pupil spending among districts within a state."

(Source : Lawyers Committee, 1977)

Although there had been some previous litigation, nation-wide interest in inequalities in the financing of schools was raised by the case of *Serrano v. Priest* before the California Supreme Court in 1971 in which the court decided that the quality of a child's education could not be a function of the wealth of his parents and neighbours without violating the Fourteenth Amendment to the Constitution of the United States, which refers to the "fundamental rights" of US citizens. In 1973, however, in the case of *San Antonio Independent School District v. Rodriguez*, the United States Supreme Court reversed the above decision, in a ruling that was subsequently termed "lamentable" (Lawyers Committee, 1977). It held that education was not a "fundamental right" under either the Fourteenth Amendment or any other part of the US Constitution and that plaintiffs could only rely on any provision in the constitution of each state which might prescribe that the provision of education was an obligation on that state. Just one month later, in the case of *Robinson v. Cahill*, the New Jersey Supreme Court ruled that inequalities in the financing of schools must cease in that they did violate the State

Constitution which required the provision of "a thorough and efficient system of free public schools" (Hough, 1981).

By February 1974, 59 such cases had been filed in more than 30 states. In the period of eighteen months following the Rodriguez case, seven states were ordered by their state courts to revise their school finance systems ; thereafter the pace slowed but in the ensuing four years this situation was repeated in a further four states ; both litigation, and related legislative reforms, have continued ever since. This is not the place to consider all the legal niceties involved but a number of relevant economic issues do arise. Firstly, how equal do school expenditures in different districts have to be, i.e. what degree of variation is permitted ? The California State Court rules : "the State may not ... permit ... significant disparities in expenditures between school districts ... disparities must be reduced to amounts considerably less than \$100 per pupil" (Levin, 1973). Why \$100 ? Is this figure inflation-proof, or will it need to be revised annually ? Secondly, would equalization of annual expenditure in dollars be a good thing and would it necessarily induce greater equality of educational provision ? The New York Supreme Court accepted the submission of the four largest cities in New York State that it would not : these cities argued that they faced a combination of exceptionally high costs and an above average proportion of disadvantaged students for whom high levels of expenditure were required. The Court held that the school systems must seek to equalize educational output rather than input, such output being defined as : "that educational opportunity which is needed in the contemporary setting to equip a child for his role as a citizen and as a competitor in the labor market".

To seek to equalize educational expenditure at the level of school districts might seem a daunting enough task but in a further, highly publicized lawsuit, Hobson v. Hansen, before the Washington DC Court, the issue was that of unequal levels of expenditure between individual schools within a district (i.e. instead of district school boards suing the state, a board found itself being sued by a parent). A major counter-argument put forward by the defence was that since substantial economies of scale existed in the larger schools, no conclusions regarding inequality of educational provision could be drawn. To these and other points (for example that predominantly white schools had older and longer-serving teachers who were naturally on higher salaries), the court ruled that "dollars count unless proven otherwise" and the defendants were largely unable to prove their assertions to the satisfaction of the court. The court considered that expenditure on such items as heating or vandalism might vary widely for a number of good reasons and even such items as teaching materials, text books and field trips were considered problematical so no order was made about any of these ; for teachers' salaries and benefit expenditures, however, the court ordered that, in the district of Columbia, "expenditures ... in any single

elementary school ... shall not deviate by more than 5 per cent from the mean per-pupil expenditure for all teachers' salaries and benefits." As a consequence the school board has had subsequently to embark on a programme of transferring some of its more highly paid teachers to some of the more underprivileged schools.

In many other countries the method of allocating finance to schools has been more haphazard. In many developing countries the major contrast is between urban schools, often larger, with well-qualified teachers and good facilities but suffering from severe overcrowding, and the rural schools, usually smaller, with smaller classes, but less-well qualified teachers and worse facilities.

The provision of finance for education from the local community of the school or college has become important in many countries, alongside other contributions to the building and running of schools which are often in kind. Kenya, in particular, became known for the scale of its community involvement in education under the term "Harambee" (literal meaning : "let's all pull together") : by 1983 unaided Harambee schools were catering for one-third of all secondary pupils in Kenya, with local farmers taking a leading role in the raising of the necessary finance. In Indonesia, a form of local taxation contributes directly to the financing of the local school, whilst in Nigeria, India and Zambia it has become customary for wealthy individuals to make substantial contributions to a school. Parent-teacher associations play a strong role in raising finance for education in Burma, Cameroon, Mali, Barbados and Papua New Guinea. In such circumstances,

"Accounting procedures are particularly important, for many self-help projects collapse following embezzlement of funds. Accounts do not need to be complicated - indeed they should be clear and comprehensible to ordinary people. Inspectors could do a great deal just by asking to see the accounts every time they visit a school. Even if they do not check accounts in detail, the mere action of asking to see the accounts could have a beneficial impact."

(Source : Bray and Lillis, 1988)

SOME CONCLUSIONS AND FORECASTS

In the preceding pages, we have seen that financial management in education can be seen as comprising a wide spectrum of financial matters, at the level of the institution, the education authority, and the education system, but that the interpretation of the term varies considerably in different contexts and in different countries.

Financial management has to be seen as essentially part of general management and therefore extends considerably further than, although it necessarily includes, basic accounting and bookkeeping. In an ideal world, financial decisions should rank second after decisions taken on educational grounds, but regrettably in practice this is increasingly not the case.

There is considerable if incomplete evidence that financial management systems currently in operation in many countries are inadequate to provide a comprehensive monitoring of financial allocation decisions and it is sometimes not easy to attract skilled financial managers into careers in an often underpaid and underfunded education service.

Budgeting, which should be a crucial element in the effective forward planning of the institution and/or system in terms of educational policies and priorities, is too often carried out as a mechanical accounting exercise. Where the budgetary operation consists largely of building incrementally on the previous year's accounts, usually rather little scope remains for allocations to be directly related to the implementation of current educational policies.

Many developing countries are now in the process of introducing computerization, or more sophisticated computerization, to educational budgeting and accounting systems, thus giving much increased potential for the rapid generation of budget-related data and more effective and more up-to-date monitoring. Where budgetary systems are being decentralized, computerization greatly aids the standardization of procedures and the rapid interchange of data, via modernized management information systems.

The effective control of costs must be an integral part of any financial management system and most education authorities have devoted much greater attention to the various concepts of costs in recent years. Auditors can play a key role in suggesting improved cost mechanisms, sometimes leading to substantial financial savings and thus more resources being available for other educational priorities.

Currently, in many countries, financial and other resources are often allocated on very unequal bases and a number of countries have given attention to questions of how to lessen inequalities and achieve a greater degree of equity.

For the future, concern with financial management in education seems certain to increase. Financial and other control systems will continue to become more complex. It is to be hoped that financial managers will seek to move further in the direction of using the financial function to support and implement educational policy initiatives and away from the purely mechanical accounting role. Such a transition has largely been achieved in some countries, but not at all in others : this is one aspect of the very wide variety to be found in current financial management practices in different countries.

The future of financial management in education also depends crucially on the quality and training of the staff. More and better training programmes are urgently needed, both nationally and internationally, for the staff involved in this work. It is to be hoped that national and international agencies will give serious attention to the provision of such increased training programmes. Such training programmes should also be related to the urgent need for further research relating to the most efficient and most cost-effective methods of financial management for countries at different stages of development.

APPENDIX 1

GLOSSARY OF TERMS

(Source : K. Tronc, (Ed.) *Financial Management in School Administration*, University of Queensland Press, 1977)

Accounting	The systematic recording in monetary terms to provide information for the purpose of analyses, as a means for forecasting, planning and decision making.
Accounts	The ledger is made up of accounts. There are five types of accounts : Asset accounts (e.g. Cash at Bank account, Accounts Receivable Control account), Liability accounts, Accumulated Fund account, Revenue accounts (e.g. Fees Account), and Expenditure accounts (e.g. Wages account and General Expenses account).
Accrual Accounting	Under this basis of accounting, all revenue earned, whether received or not, and all costs, whether paid or not, are taken into account to determine the profit or loss for the year.
Allocative Efficiency	The budget is efficiently allocated when the additional worth of the last dollar spent on each item is the same.
Analytical Cash Book	A Cash Book with multiple columns for the purpose of recording various types of receipts and payments.
Balance Sheet	Shows the value of assets, liabilities, and the balance of the accumulated fund at a certain date.
Bank Reconciliation Statement	A statement reconciling the difference between the cash situation in an institution's Cash Book with that shown on a Bank current Account statement, owing mainly to deposits not credited by the bank and cheques not presented to the bank for payment by customers of the institution.
Budget	A plan expressed in dollar terms and covering a period of time - usually a year. A budget may take the form of a break-down of the funds available to an institution for a period against which actual expenditures may be compared with the budgeted amounts.
Capital Expenditure	Any expenditure on lasting or durable items - erection of new buildings or extensions to old buildings as against repairs to existing buildings. Basically it refers to expenditure which increases the physical capacity of an institution and which serves the needs of students over a number of years.
Cash Basis Accounting	Under this system, revenues are taken into account when they are received, and expenditures are taken into account when they are paid.

Cash Book	Records receipts of "cash" on the debit side and payments of "cash" on the credit side. In addition, it shows the opening balance and closing balance for the month or some other period. A Cash Book therefore combines the functions of the Cash Receipts Journal and the Cash at Bank Account in the Ledger.
Contingencies	Expenditures other than wages and salaries which must be made to carry on an operation, e.g. repairs to buildings, consumable stores, financial expenses, telephone charges, electricity, etc.
Credit Balance	When the credit side of a ledger account is greater than the debit side. In the case of your cash book it would mean payments exceeded receipts, but a credit balance on your bank statement would mean you had paid in more than you had drawn out.
Debit and Credit	Debit is the left side of an account, and credit is the right side of an account.
Debit Balance	A ledger account has a debit balance when amounts in its debit column exceed amounts in its credit column.
Double-Entry Bookkeeping	Each transaction involved at least two accounts; for example, when money is received from a debtor, both the Cash at Bank Account and the debtor's account are affected, so one entry will be made in the Cash at Bank Account, and a second entry will be made in the debtor's account.
Fund Accounting	In a school, resources may be accounted for in several separate funds. Each fund has its own set of accounts. The purpose of this method is to ensure that the funds are used only for the purposes designated.
Imprest System	A system whereby a cash refund always restores the original fund to the same amount, e.g. if you have \$10 in Petty Cash account and spend \$6 during the month, a claim is made of \$6 to restore the original fund to \$10.
Income and Expenditure Statement	Is similar to a Profit and Loss Statement for an ordinary trading organization. It is prepared to determine the excess of income over Expenditure or vice versa.
Invoice	An invoice is issued by supplier when goods or services are bought on charge account.
Journal	Transactions are recorded as they occur in Journals before being transferred to the classified accounts of the Ledger.
Ledger	Consists of individual accounts such as Cash at Bank Account, Debtor's Accounts, Creditor's Accounts, Income Accounts and Expenditure Accounts. Entries in the accounts come from the Journals.
Not Negotiable	With reference to a Bill of Exchange (cheque) "not negotiable" means the person receiving the security (cheque) has no better title to it than the person giving it.

Opportunity Costs	The value to the school of the next best alternative that has to be foregone by a decision ; e.g. the opportunity cost of a decision to build a school swimming pool could be the value to the school of a new library block.
Petty Cash	A fund set aside to provide for small or incidental payments such as bus fares, tea, stamps.
Receipts	A receipt is a document issued as evidence of actual cash or cash equivalent which is received by an institution ; e.g. fees, allowances, donations, governments subsidies. Information concerning the receipt is entered in the Cash Receipts Journal or on the Receipts side of the Cash Book.
Recurrent Expenditure	Unavoidable expenditures which must be met simply to keep an institution functioning at a certain level - salaries and wages of staff, stationery, repairs, electricity, insurance. Note that \$1m spent on teaching salaries will recur again next year if the same number of students is taught again.
Subsidiary Ledger	These are specialized ledgers such as Debtors or Accounts Receivable Ledger and Creditors or Accounts Payable Ledger. The total of all the balances in the accounts of a subsidiary ledger is equal to that of its Control Account in the General Ledger.
Technical Efficiency	The best available means and methods for physically combining resources to produce educational output are being used.
Trial Balance	A list of ledger accounts with their balances at a certain date.
Voucher Register	A Voucher Register has multiple columns in which invoices from all suppliers are recorded before payment.

APPENDIX 2

Sample Journal entries for University Place School District General Fund

(Transactions described following entries)

Transaction Number	Accounts	Debit	Credit
1	Estimated Revenues Fund Balance Appropriations	10 871 668 78 962	10 950 630
2	Cash Revenues	1 685 735	1 685 735
3	Warrants Outstanding Cash	826 540	826 540
4	Investments Cash	500 000	500 000
5	Encumbrances Reserve for Encumbrances	825 000	825 000
6	Vouchers Payable Warrants Outstanding	14 382	14 382
7	Accrued Expenses Warrants Outstanding	675 492	675 492
8	Due from other Funds Warrants Outstanding	20 000	20 000
9	Cash Revenues	15 763	15 763
10	Expenditures Warrants Outstanding Reserve for Encumbrances Encumbrances	32 564 32 564	32 564 32 564
11	Inventory Warrants Outstanding	17 000	17 000
12	Expenditures Inventory	21 029	21 029
13	No Entry	-	-
14	Expenditures Warrants Outstanding Reserve for Encumbrances Encumbrances	626 432 626 432	626 432 626 432

Description of transactions

1. The budget for the fiscal year beginning on September 1, 19X1, includes estimated revenues of \$10 871 668 and an appropriation (or estimated expenditure) of \$10 950 630.
 2. Property tax revenues amounting to \$ 1 685 735 are received by the district and deposited in the cash account.
 3. Notice is received that \$826 640 worth of warrants have been redeemed at the county treasurer or bank.
 4. The board of education approves investment of \$500 000 in a 180-day note bearing interest of 9 percent.
 5. Purchase orders totalling \$825 000 are issued by the district business office.
 6. Warrants totalling \$14 382 are issued for amounts previously accrued and approved in voucher format.
 7. Accrued expenses (mostly payroll) of \$675 492 come due and warrants are issued for the total amount.
 8. A \$20 000 loan is made in warrant form to the student-body fund. This loan is made for a period of 90 days and carries an interest rate of 7 percent.
 9. Interest payments of \$15 763 on investments are received and deposited.
 10. Warrants are issued for \$32 564 worth of expenditures, which were previously encumbered for the same amount.
 11. Additional lunchroom inventory of \$17 000 is purchased by warrant.
 12. A physical inventory reveals that actual inventories are \$28 470 and this is reflected in the inventory account. No attempt is made at this time to adjust the reserve for inventory to reflect this lesser amount.
 13. A \$50 item is purchased from the imprest funds.
 14. Warrants are written to pay for \$626 432 of goods and services previously encumbered for the same amount.
-

(Source : Johnson, 1982, which gives fuller details regarding the accounting treatment of each item.)

APPENDIX 3

Financial Management Accounting Systems run by the United States Department of Education

The Department of Education operates 29 Financial Management accounting systems to account for, control, and report on its appropriate funds and other resources. The following table lists the 29 systems and briefly describes the functions carried out by each.

Name	Purpose
Financial Information Retrieval, Error Correction, and No Errors Data Entry System	Maintains the Department's official general ledger accounts, prepares summary financial reports, and provides summary financial controls for the Department's appropriated funds and other resources.
Education Department Payment Management System	Processes cash disbursements; is maintained by the Department of Health and Human Services.
Accounts Receivable System	Records and maintains detailed accounts receivable resulting from audits that disallowed contractor and grantee disbursements and amounts due from students under financial aid programmes after collection efforts were abandoned by the educational institutions and the accounts were turned over to the Department for further collection efforts.
Grants and Contracts Management System	Awards, records, controls and accounts for all discretionary grants and some formula grants.
Payroll Accounting System	records, controls and makes the Department's payroll disbursements.
Administrative Payments System	Records, accounts for, controls and makes the Department's travel and other administrative expense disbursements; is run at the U.S. Department of Agriculture's National Finance Center.
Automated Procurement Document System	Creates requests for proposals and contract award documents and generates transactions to obligate appropriate funds.
Small Purchase System	Accounts for and controls disbursements for purchases of \$25 000 and less and generates accounting entries for the general ledger system.
Budget Execution System	Records, accounts for and controls apportionments of the Department's appropriated funds ; prepares and issues formal apportionment documents for the Department's organizational components.

Name	Purpose
College Housing and Higher Education Facilities System	Awards and records loan, grant and interest subsidy payments for the College Housing and Higher Education Facilities Programs.
Guaranteed Student Loan Interest Payment System	Records, controls, accounts for and makes interest payments under the Guaranteed Student Loan Program as well as special allowance payments due private lenders.
Federal Insured Student Loan and National Direct Student Loan Collection System	Records, accounts for and controls cash payments received on defaulted loans and repayments under the Federal Insured Student Loan and National Direct Student Loan Programs.
Pell Grant Regular Disbursement System	Processes grant awards and administrative cost allowance payments to higher education institutions that have agreed to participate in the administration and management of the Pell Grant Program.
Pell Grant Alternate Disbursement Validation Tracking System	Records detailed information on individuals who apply for Pell Grant assistance through the Department's Pell Grant Alternate Disbursement Program. This system maintains a data base of all students who receive Pell Grant payments through the Pell Grant Alternate Disbursement System.
Pell Grant Alternate Disbursement System	Calculates, awards, controls and makes payments directly to Pell Grant applicants who attend higher education institutions that have elected not to participate in the administration and management of the Pell Grant Program.
Guaranteed Student Loan State Agency Reinsurance System	Records, accounts for and controls cash advances, claim payments and administrative cost payments made to state guarantee agencies under the Guaranteed Student Loan Program.
Campus Based System	Records, accounts for and controls all grants awarded to colleges and universities under the College Work Study and Supplemental Educational Opportunity Grant Program.
Guaranteed Student Loan - Federally Insured Student Claim Payment System	Awards, records, accounts for and controls payments to lenders for defaulted loans insured directly by the federal government through the Guaranteed Student Loan Program.
Cuban Loan/Law Enforcement/Pell Collections System	Records, accounts for and controls cash receipts and loans and grants receivable under the Cuban Loan, Law Enforcement and Pell Grant Programs.
Training Obligation System	Accounts for and controls disbursements for training provided to Department employees.

Name	Purpose
Personal Property Management System	Records, accounts for and controls government-owned property in the possession of contractors and records, accounts for and reports the purchase, transfer and disposal of personal property used within the Department.
Veterans Cost-Of-Instruction Program Payment System	Records and processes grant awards payments to institutions to establish special programmes to assist Vietnam war-era veterans in adjusting to college life.
Impact Aid Payment System	Records and accounts for Impact Aid payments to local education districts.
Indian Education Entitlement System	Records, accounts for, controls and processes disbursements under Indian Education formula grants.
Formula and Block Grant Systems. Comprises these six manual systems :	Awards and makes payments under formula and block grants to various state and territorial agencies programmes.
Office of Elementary and Secondary Education Formula and Block Grant System	
Office of educational Research and Improvement Formula and Block Grant System	
Office of Special Education and Rehabilitation Services Formula and Block Grant System	
Office of Bilingual Education and Rehabilitation Services Formula and Block Grant System	
Office of Vocational and Adult Education Formula and Block Grant System	
Office of Postsecondary Education Formula and Block Grant System	

APPENDIX 4

Training needs in financial management in developing countries

(From report by United States General Accounting Office)

" We found that there is a need to improve and expand training offered at those institutions serving only host countries as well as regional institutions serving the nationals of several countries. A national training plan is a necessary and vital part of this effort. Additional assistance will be needed by providing more resources and by demonstrating to high government officials about how improved financial management can help save scarce pupils funds. In this vein, the US Comptroller General has initiated a fellowship program that is enabling developing-country nationals to receive training at the US General Accounting Office.

Training Development Plan

Before a government upgrades its training programs, it should take stock of existing human resources, identify present training programs, and determine future needs. This process should first include preparing a national inventory that would list all current training relevant to both public and private accounting, auditing and other areas related to financial management. Once an inventory of existing training is developed, the government should prepare an inventory of future training needs, based on available human resources, anticipated future resource requirements, and current ongoing training programs. This inventory could be used to prepare a national plan for upgrading training so that anticipated future requirements can be fulfilled. The plan should include the role of international donors and foreign institutions.

This entire process of developing a national training plan should be done by a centralized government agency having access to all government offices such as the national planning office. The Office of the Comptroller General might also be a logical choice because of its government-wide contact and its interest in this type of training.

In-country training at national institutions must be improved and expanded

Many officials, both in the countries we visited and at our symposium, believed training should primarily be given in-country on a national basis. Improvements appear to be most urgently needed in the public institutions. These schools are most attractive to people employed in the public-sector as well as those who may eventually work there.

By concentrating training at the country level, more attention could be given to the specific needs and problems of each country. It is difficult to consider the developing countries at a totality ; country-specific approaches are needed for almost everything that is done. Disparities between the countries in terms of their level of development are great, including development in terms of financial management. It is difficult to generalize in a way that will fit the extremes of the developing countries.

The Economic Development Institute of the World Bank, as of November 1977, offered two-thirds of its courses to developing-country officials in-country in cooperation with national and regional institutions. They place less emphasis on direct teaching and more on support of these partner institutions overseas. This includes training local instructors that can do the actual teaching.

Regional training is also needed

Training at the regional level should also be strengthened and encouraged. Regional training centers could be established under the jurisdiction of the United Nations or other organizations or by a separate regional organization comprised of the involved governments. Such training programs should be more effective and relevant to local conditions because they could cater to specific regional requirements. Regional institutions tailored to fulfil certain specific needs could provide better instruction in more narrow technical subjects than country-level training institutions which may have to teach more general subjects. They would also save time and money compared to sending students overseas to developed countries.

Such regional centers could also assist in the development of procedural manuals, accounting concepts and auditing standards. These centers might also be an ideal vehicle for carrying out research programs on a mutually beneficial basis, and for sponsoring regional gatherings which provide a good opportunity for the exchange of country experiences, practices and ideas.

Students, teachers and instructional materials could also be exchanged through these centers.

Many panelists attending our symposium believed that expanded training should be offered primarily through a regional center or a network of regional centers. Some panelists added, however, that these institutions often can only train a relatively small number of the skilled personnel needed because of the costs involved. These institutions generally have financial-support problems."

(Source : United States General Accounting Officer, 1979)

APPENDIX 5

Example of a budget preparation calendar

July 1	Budget year begins.
October 1	Quarterly revision - to incorporate accurate revenue and enrolment figures (present budget).
November	Population (enrolment) projections. Staff needs projections. Programme changes and addition projections. Facilities needs projection.
December	Staff requisitions - supplies. Capital outlay preliminary requests.
January 1	Budget revisions (present budget)
January	Central staff sessions on needs. Maintenance and operations requests.
February	Rough draft of needs budget.
March	Meet with staffs and principals to establish priorities. Citizens committees' reports and review. Central staff and board of education budget sessions.
April 1	Budget revision (present budget).
April	Working budget draft. Meet with staff and community groups to revise working budget.
May	Final draft of working budget.
June	Budget hearings and adoption of working budget.

(Source : Candoli, 1978)

APPENDIX 6

Selected Reading List

	<u>Country of Origin</u>
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