Woman CPA Volume 43, Number 2, April 1981

American Woman's Society of Certified Public Accountants

American Society of Women Accountants

The Woman CPA

APRIL, 1981 VOLUME 43, NUMBER 2

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POSTMASTER: Send address changes to THE WOMAN CPA, 600 Main Street, Tenth Floor, Cincinnati, Ohio 45202.

Change of address notices must be sent to Circulation Department giving both old and new addresses and zip code numbers. Please allow four weeks notice.

Manuscripts should be addressed to the Associate Editor, Manuscripts. Letters to the Editor, news items and other materials should be sent directly to the business office. Manuscript guidelines available upon request.

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CIRCULATION DEPARTMENT:

THE WOMAN CPA
P.O. Box 944
Cincinnati, Ohio 45201

The Woman CPA

(ISSN 0043-7271)

April, 1981 **Volume 43, No. 2**

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Cover illustration by Jo Ellen McElwee

Editor's Notes

Eggs, and perpetuity

In the chill of an uncertain springtime we note in the magazines that we can order a Wedgwood egg pendant, a cloisonne egg with delicate multifloral design for the coffee table, or a set of fine colorful tin eggs, $2^{1}/_{2}$'' long, lithographed with old world designs. Symbols of hope and renewal, for a price.

Not for sale at any price are the jewel encrusted eggs originally crafted for Russian czarinas, or the intricately ornamented and filigreed eggs fashioned in gold by fifteenth century Italian artisans. Egg motifs are carved into the moldings on classical architecture such as the Erechtheum in Athens, the Arles Cathedral, and the Temple of Jupiter in Rome. An artist's eye is delighted by the tapering oval shape of an egg, the religious mind is stirred with thoughts of immortality, and the hands of a child cradle an egg with a caress and timeless wonderment.

Eggs are new life, packaged with marvelous efficiency. Sometimes they are clustered together in a gelatinous mass or piled in a froth on a branch by some procreant butterfly or tree frog, and sometimes, if the mother is a bird or oviparous reptile, appearing as individual eggs. Each in its own way is beautiful.

Whatever the genesis, if life is to be perpetual it must renew itself for the older forms will surely die away. Eggs mean that the species is going on to tomorrow. The accounting profession has eggs in a number of nests this very minute, and that is a cheering state of affairs.

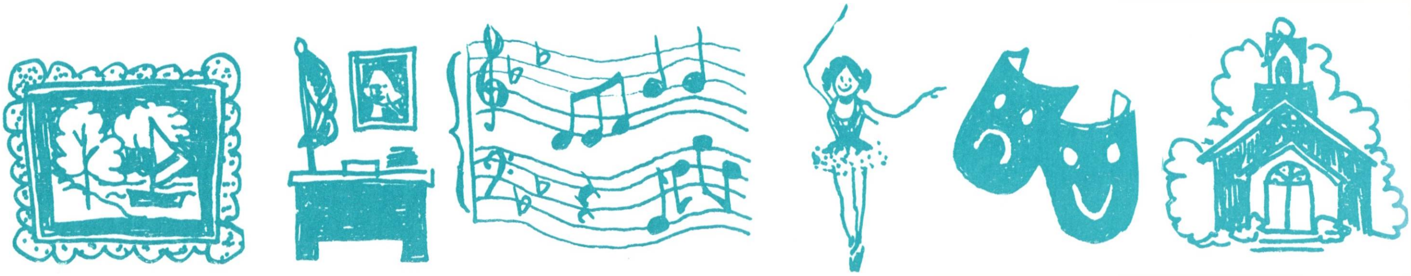
At times it is hard to distinguish the progeny from the parent, especially in accounting where identical phraseology occurs in APB Statements, APB Opinions, and FASB Statements of Standards and Concepts. Changes are subtle from one generation to another but that's the way of biology, too, genes and chromosones being as they are. Fr. Luca Pacioli carries the popular misnomer of "father of accounting" — the original chicken if we may mix the sex of the metaphor — whereas in fact Fr. Pacioli simply gathered all the Venetian accounting eggs in one basket and set them out on display. (This issue of The Woman CPA reports on an apocryphal speech by one Prudence Pacioli, identified by the Editor for the International Accounting Department as an "indirect descendant" of the celibate scholar.)

Notable new eggs in the accounting nest, presented by the Financial Accounting Standards Board as arbiter of generally accepted accounting principles, include concepts and standards related to the Board's Conceptual Framework, to pensions, and to accounting for nonbusiness organizations.

The FASB Conceptual Framework is having a long period of development, and incubation by the accounting profession may be even longer. The eggs of ideas presented to date, i.e., Concepts Statements Nos. 1 through 4, include cogent arguments for change, particularly when considering how accounting mirrors the real world of business. Those particular eggs of ideas are not going to hatch out into birds whose songs, pitched to historic costs, may be slightly out of tune but nevertheless sweetly familiar.

Accounting for nonbusiness organizations is a problem of such scope that the FASB has engaged in much research about it, and has devoted Concept No. 4 (December, 1980) to its objectives. This issue of The Woman CPA presents articles that describe the actual practice of accounting in several nonbusiness activities. Our intent is to be reportorial, not critical, and the articles are published to highlight the current interest in financial reporting by nonbusiness organizations.

Constance T. Barcelona



Accounting for A County

Beyond The City Limits

By Wilma Loichinger

A county, or a parish as it is called in Louisiana, is a division of a state created for political, judicial and administrative purposes. Residents of a large city scarcely realize that there is a county government. There may be designations of the health department or library system as being ABC County institutions but most counties in urban areas are so dominated by the city they encompass that county government and city government seem almost synonymous.

When the population thins, so does municipal government. Sarasota County in Florida is a case in point and illustrates the primacy of county government in an area of low or moderate population density. Sarasota County has about 200,000 inhabitants and includes the three incorporated cities of Sarasota, Venice, and North Port, and the town of Longboat Key. The rest of the county is unincorporated and that area includes about 63 percent of the population. County government is very evident there since well over half the population is governed and serviced by the Board of County Commissioners.

Twenty-five years ago when Sarasota County was almost completely rural the bulk of the population lived in very small towns with a sparse population scattered over the remainder of the county, mainly on farms and ranches. At that time the county government furnished minimum service: maintenance of the few rural roads, a small sheriff's department, tax collection, county courts, and not much more.

Shortly thereafter there was a population movement from the northern to the southern states. This was not a small trickle of people but a veritable deluge that increased the population of Sarasota County by 62 percent in the last decade, with a 20 percent increase in the last five years. It is estimated that by 1990 the county will have increased by another 50 percent, or more, which will be better than doubling the population in a twenty-year period.

However, as population from the north moved down to the area to take advantage of the salubrious climate they did not, in most cases, settle in the towns but bought their home sites along the Gulf and bays and the many lakes or among the lovely green areas. This was a population that was not satisfied with a few gravel roads and wide open spaces.[1] They needed and demanded the same services they had in the cities and towns they came from. They wanted good paved roads, street lights, water and sewage service, proper protective services, zoning to assure protection of the value of their property, health and welfare services, parks and recreation, and good libraries—all the amenities that make the good life.

So the county government grew in size and complexity to furnish those services. It developed an ever-growing transportation department that builds and maintains a large web of paved roads and bridges and a complicated system of traffic control. It also created an environmental services department that controls water and air pollution, rids the County of noxious insects and aquatic weeds in the waterways and even removes unwanted alligators from the populous areas. It developed a health department and a social services department to care for the health and welfare needs of the expanding population and a parks and recreation department and a library complex to serve their cultural and entertainment needs. An agricultural and home economics department furnishes information on how to plant and grow things in a semi-tropical climate, which varies widely from the seasonality of the north. It also furnishes waste disposal and water utility service.

Through creation of special districts, some areas have street lighting, ambulance and life saving services, fire service, and any special service that that section of the county desires and for which it is willing to pay a special fee.

To control it all in a logical manner, a planning department was created to establish long-range plans for optimum development of the area and to handle daily problems of requests for rezoning and special exceptions to zoning laws. With growth there must be control, not only through planning and strong zoning laws but control of all phases of the construction of housing and commercial facilities and development of subdivisions, condominium complexes and mobile home parks. Therefore a building and zoning department was created to review all plats and building plans to insure code compliance, issue building permits, and conduct numerous inspections to determine that the final product is in agreement with the plans.

To service all these departments a range of central service departments were created such as personnel, purchasing, property control, printing, telephone, maintenance, data processing, motor pool, etc. All these divisions come under the administration and control of the Board of County Commissioners.

In addition, Sarasota County

Populations have shifted north to south, city to unincorporated area.

government includes a group of elected officials who report to the state, rather than the Board of County Commissioners, including: the Tax Collector who collects all county taxes as well as the city and state taxes; the Supervisor of Elections who conducts all elections: county, state and federal; the Sheriff who furnishes protection of life and property in the unincorporated area; the Property Appraiser who determines the proper valuation of all real and personal property for tax purposes; and the Clerk of Courts who services the county and state courts located in Sarasota County and is charged with the fiscal control of the County. All this adds up to a budget that exceeded $63 million for fiscal year 1980-81.

Moving out into the county

Sarasota County is not unique in this growth. It is true all throughout the southeastern and western states. It is even true in practically every county in the country. The northern counties may not have had the influx of residents from other states but there has been a steady movement of population from the cities to the suburbs, and unincorporated areas. Residents want more room, open spaces and sunshine, but they still expect the equivalent of city services and county governments have grown in complexity to furnish those services as needed.

This shift in population is seen in the U.S. Department of Commerce Bureau of Census reports. In the "County and City Data Book 1977"[1], of the 915 cities in the USA with population over 25,000 as of 1975, almost 44 percent showed an actual reduction in total population compared to 1970. The City of New York alone shows a 413,950 reduction. This reduction was not only in the northern cities but in California: Oakland had a reduction of around 31,000, Garden Grove around 3,000; and in the south: Charlestown, S.C. lost over 9,000, Augusta, Georgia lost over 5,000. During this same period the country as a whole had a population increase of 9,725,137, a 4.8 percent increase. Therefore, the population increase has been mainly to the unincorporated areas of the country.

In the "Florida Statistical Abstract 79"[2] which shows the population growth between 1970 and 1978, there was an increase in the population of the State of Florida of 2,174,977 or 32 percent over the 1970 total. However, the greatest growth was in the unincorporated areas where population increased 45 percent with the incorporated areas increasing only 24 percent. Sarasota County showed an increase of 62 percent in the unincorporated area for that period with only a 39 percent increase in the incorporated areas.

Overlapping taxes

The complexity of county services required by the shift of residents to the unincorporated areas answered the needs of the population but it also resulted in legal problems. The residents of the incorporated areas in more and more areas of the country are crying "dual taxation" and bringing their complaints to the courts. Residents of the cities pay county taxes as well as city taxes and suits have been filed citing certain services which the city resident feels are being dually charged for by both the city and the county, although these services come only from the city. Services such as road construction and maintenance, planning, building and zoning, sheriff's department and even parks and recreation are questioned since cities furnish many of these services to the residents. Some of the suits have been settled in various manners and others are still pending in the higher courts. Those settled have resulted in refunds of portions of the county taxes to the cities or creation of special districts for specific services. In other cases the county legal staff has presented evidence to show the benefits to city residents of some or all of the county services questioned. This problem will grow in all parts of the country as more and more people begin to take a long hard look at what they are paying for, and what they feel they are receiving for a dollar that is continually shrinking.

Rebellion by the taxpayers has also resulted in the much-publicized "Proposition 13" vote of the California residents that is spreading similar limitations throughout the country. Voters may not be able to do much about the spending of the Federal government but they certainly can limit the local taxing powers, and in California they did. Tax limitation is taking several forms and being enacted in various manners in a number of states.

The Florida State Legislature decided in 1979 to enact its own tax limitations for the taxpayer in the form of House Bill 4-D, the "Truth in Millage" or TRIM bill. This is a complex 99-page document that addresses a vast number of local government operations related to the Property Appraiser's office, the Tax Collector, the School District, the Property Appraisal Adjustment Board, budgets, assessments, and homestead exemptions. Its main goal is to allow the taxpayer to be better informed about tax assessments, the setting of millage rates and their relation to local government and school district budgets. It also includes a clause which specifies "The taxing authority may not increase by more than 8% above the rolled back rate unless approved by the affirmative vote of at least a majority plus one, or 2/3 of the full membership of the governing board of the taxing authority." To determine the taxing limit for a specific county, the 8 percent is applied to the dollars of tax recovery for the previous year. Total dollars are divided by the appraised value of the property as of that date to develop the allowable millage. This millage cannot be exceeded except by approval of the required majority of the governing board of the district. Not many governing bodies are willing to go on record as approving a rate in excess of that limitation.

Prior to this bill, local governments developed their annual expense budgets and then determined the sources of revenue including ad valorum taxes. The millage finally approved by the board would be sufficient to cover the expense budget, taking care not to increase the millage rate in excess. However, now the millage rate, in essence, has been fixed for them so the expense budget must be adjusted accordingly. At a time of rising costs and the large influx of new residents, the development of budgets for the 1980-81 fiscal year has not been easy for the various local governments in Florida.

To alleviate the problem of funding, the local governments have increased their development of schedules of fees for special services. This was started some years ago to curb the rise in ad valorem taxes but, with the "dual taxation" suits and the limitation of ad valorem millage rates, the development of new fees and upward adjustment in the previous rates charged for services increased exponentially.

One of the newest fees being discussed and established is an "impact fee." The local governments are recognizing that the increase in population from other states and even foreign countries is resulting in the need to expand the present service facilities to accommodate the new residents. Rather than increasing the tax burden on their present residents, the governments are developing a one time impact fee on new housing to cover these expansion costs. Fees are also being developed for almost any service that can be identified specifically as benefiting an individual rather than the population as a whole. This is responsible management and, in most cases, gives the residents a choice as to how much or how little of the services of the government they wish to pay for.

Accounting and Budgeting for a County

The accounting and budgeting for county government of course falls within the non-business, government accounting, section of accounting methods. The above discourse has pointed out the variety of services provided, and the problems and the restrictions that affect county operations as well as its accounting system. In addition there is the rapid growth factor in county government that in many cases has made obsolescent the old methods and systems of accounting used in many counties. Growth has been comparable to the change from a country store to a multimillion dollar supermarket complex in a relatively few years. In some cases the accounting methods have not been updated rapidly enough to keep pace.

There are restrictions on accounting methods that have been imposed by local and state laws in past years, that do not permit a smooth update of accounting methods to the optimum as described in the publication of the National Committee on Governmental Accounting titled "Governmental Accounting, Auditing, and Financial Reporting" (GAFR) and the update of same in Statements 1 and 2.

The County is required by law to maintain a number of special funds and in addition has created some of its own, particularly for self supporting departments such as the Utilities Department and Building and Planning. Each fund maintains its own general ledger accounts including separate bank accounts, which are usually savings accounts with larger amounts invested in certificates of deposit or a state investment fund. The accounting transactions for these special funds are in the general stream of accounting operations. However, all special fund revenues must be directly deposited into that fund's bank account and weekly cash transfers are made from the special fund bank account to a clearing account to write vendor or payroll checks. The law prohibits commingling of these funds.

Florida State Statutes regarding county budgets are very specific in the methods to be used in the preparation and adoption of the budget even as to the advertising of the budget and the holding of public hearings. The statute specifies that the expense budget as finally adopted becomes a fixed budget and cannot be increased even though the collection of revenues exceeds the amount specified in the income budget, except for "grants, donations, gifts or reimbursement for damages." Therefore, the preparation of the income and expense budget is very critical since it is practically cast in concrete once it is adopted.

All sources of revenue must be carefully estimated. If the estimate is too low, the additional funds collected cannot be used to increase the expense budget to cover increased need for services.

An "impact fee" is assessed on newcomers, and spares established residents.

Conversely, if the revenue budget is in excess of actual collections and the matching expense budget is spent, the county could end in an overdraft position.

In order to pick up all sources of funding, items such as "Cash Balance Forward" and "Reserve for Contingencies" become part of the income and expense budget. The "Cash Balance Forward" in the income budget permits budgeting for the use of those funds in the expense budget. In some cases "Cash Balance Forward" also shows in the expense budget to indicate reserving that amount for use in future years. A "Reserve for Contingencies" is the only method available to permit increases in various department budgets, within a specific fund restriction, to accommodate unforeseen requirements for increased services during the fiscal year. Transfers are made from the "Reserve for Contingencies" to specific department budget accounts as needed during the year.

As mentioned before, the elected officials of the county, including the Tax Collector, Property Appraiser, Supervisor of Elections, Clerk of Court, and Sheriff, do not report to the Board of County Commissioners but to an appropriate state agency. The budget for the operation of their departments is part of the county budget but is required to have only minimum detail per state law. It usually includes only salaries, supplies and other expense, and equipment. The official draws 1/12 of that budget monthly and maintains his own accounting function. Therefore the county detail records do not reflect any of the detail expenditures for those departments.

The departments may use some of the central services furnished by the county such as payroll, purchasing, and central stores, but the detail of those operations goes to the elected officials' records, not the county records. Fixed asset control and detail must be updated through notices from those departments. The departments furnish annual financial reports to the state departments with copies to the county so some detail can be obtained through that method, but it is an awkward situation.

The departments of the elected officials are also autonomous in their determination of the accounting methods to be used for their records so it is almost impossible to standardize the accounting methods for the whole county. However, this may change in Florida as the state Bureau of Local Government Finance has taken a particular interest in the development of uniform accounting by the various local governments.

In December 1977 a "Uniform Accounting System for the Units of Local Government" was issued by that Bureau which included a complete chart of accounts. This system has not been mandated for the elected officials' departments but it no doubt will move in that direction in the near future.

The Uniform Accounting System was implemented by the local governments as of October 1, 1978, for budget year 1978-79. It includes the statement "The governmental accounting principles which are included in the Uniform Accounting System were adopted from the two most authoritative works in governmental accounting. The National Committee on Governmental Accounting's *Governmental Accounting, Auditing and Financial Reporting,* commonly referred to as the "blue book," and the American Institute of Certified Public Accountants' *Audits of State and Local Governmental Units,* known as the "audit guide," form the basis of the theory and principles of the Uniform Accounting System."

The system includes a very comprehensive description of accounting methods and carefully delineates the classification of balance sheet, revenue and expenditure accounts. It also requires an indentification of revenue and expenditures by a county for the unincorporated and incorporated areas in the county. Included in the coding system is a two digit number that identifies the function of the revenue or expenditure such as: General Government Services, Public Safety, or Physical Environment. On the basis of this code, financial reports are prepared by the county for the state which furnish a standard method of comparing county operations throughout the state.

The Uniform Accounting System has furnished the counties, large and small, with guidelines needed to update their accounting systems to meet the needs of the growing population. Used in conjunction with the "blue book" and "audit guide" a very comprehensive system of accounting can be developed to properly account for all their operations.

As the county operations have grown in volume and complexity, the old ledger book and quill pen method of accounting is no longer sufficient and even the smallest counties are going to some form of computer service. Those already using some computer services have found need to update their programs and are developing sophisticated methods of budgeting and accounting including encumbrance of purchases and payroll.

Accounting for Fixed Assets

Many counties have been remiss in the accounting for fixed assets. Since purchase of land, buildings, furniture and equipment depended merely in the appropriation of funds, detailed accounting for those assets was not maintained. Only those assets held by Enterprise Funds, such as utilities which required depreciation charges, were maintained and those were often in total rather than specific items. The State of Florida is now requiring specific identification of all fixed assets and proper costing of those assets.

Development of a fixed asset system is a very time consuming task. Such a system is being developed for Sarasota County. Here the furniture and equipment items have been identified in detail for a number of years and updated throughout the year as items are received or removed. However, the general ledger asset account, rather than controlling the detail, is itself updated by the net amount of items added to the detail. Still this furnishes the detail needed for this part of the system and requires only updating of the computer system and the addition of the classification code required by the state. The new system will also require control of detail by the general ledger control account and the subsidiary ledger control by departments holding the assets.

Development of the land and building assets is a different situation. Identification of these assets requires a survey of the files of many departments of the county such as the Engineering Department, Planning Department, Property Appraiser, Building Maintenance and Clerk of Courts deed files. Each has bits and pieces of land and buildings the county may or may not own. Seldom is the cost of the item indicated and, in the case of land, the legal description seldom includes the intended use of the land such as a park, airport, or right-of-way for a road or drainage. Only gradually is a list of land parcels and buildings developed and then, to finalize the ownership and the cost, a detailed survey must be made of the deeds of county owned assets. Since Sarasota County was established in 1921, this involves 60 years of paper.

Some parcels of land were donated to the county and these will have to be cost based on the value of the land as of the date of gift. Some land was dedicated to the county, usually park land as subdivisions were developed. The legal department of the county will have to decide if these parcels are county property to be included in the fixed asset system. Further complication is the fact that buildings have been built by the county on those dedicated parcels.

The identification of buildings owned by the county and costing of same is also complicated. The county has, over the years, acquired the maintenance of many buildings throughout the county, but not all are county owned. Some are actually owned by one of the cities but maintained by the county. Up to now that was really not important and no one seems quite such who owns various buildings. Ownership has to be specifically determined. A bigger problem is the costing of buildings built some years ago by the county for which no detail cost records have been retained. The state permits an appraisal as to cost of the building at time of construction so the Property Appraiser's office will be requested to develop those costs. All that has to be determined is the date when the building was built.

Once this system is completed the land and buildings can be plotted on a map so they can be identified for decisions as to need for additional acquisitions, availability for trade for more favorable plots, or decisions as to acceptance of donation of land which may be favorable to the county or which may be only an additional cost of maintenance. Part of the system will also include the identification and mapping of easements and rights-of-way for roads and drainage controlled by the county for use by the Engineering Department. With the development of new roads, bridges and drainage areas as new land is opened up, such data is vital.

Recent Federal Laws Affecting Counties

With the tightening of the financial structure of the entire country as inflation soars, Congress has been debating the reduction or removal of a number of federally supported programs that vitally affect the operation of local governments. Programs such as the Department of Labor Comprehensive Employment and Training Act (CETA) and the Department of Justice Law Enforcement Assistance Administration (LEAA) program for training and support of law enforcement programs may be greatly reduced or could be phased out. Many counties depend on these programs for obtaining personnel and equipment at a much reduced cost.

The program that the Crongress was considering discontinuing or greatly reducing, which would have the greatest impact on the operations of many counties in the country, was the General Revenue Sharing program. The continuation of this program was proposed in a different format by each House of the Congress and the debate was long and vociferous prior to the October recess with no final disposition being made. The act has to be approved by this Congress in the lame duck session if it is to continue.

Some counties are very dependent on that source of funding: as much as 20 percent to 50 percent of their operations including police, fire protection, public works maintenance and human resources such as public welfare, senior citizens' assistance and aid to the handicapped depend on those revenues. Withdrawal of the funds would push the county taxes to a rate that the population could not support, which could mean the complete collapse of the county government. Sarasota County, however, has traditionally made an effort to never become dependent on federal funding for support of its basic programs. Federal Revenue Sharing funds are used only for capital projects that can be delayed if funding is not available.

There was concerted effort to obtain approval of the Federal Revenue Sharing program by county officials throughout the country through an organization known as the National Association of Counties. It was very effective and the program was approved by Congress on December 12, giving a three year extension to the local government portion of the program at the same funding level as the previous program.

With the change in administration in January 1981 there has been an accelerated push to reduce the federal budget and a number of federal programs may be removed or greatly reduced. Among these is the CETA program that seems destined to be completely phased out. Many of these budget reductions will have a definite impact on the funding for services rendered by the various counties. Thus can the fortunes of local government change as laws, local, state or federal, pass or fail.

County government is a very vital thing and the Board of County Commissioners sometimes feels like the circus juggler trying to keep all the balls in the air at once. The following is a list, not exhaustive, of the various items that are pending in Sarasota County to give some idea of the complications that are faced daily.

- Solid Waste Management — need of additional land fill areas
- Phosphate Mining — possible pollution of Myakka River — County drinking water source
- Management and protection of wetlands and coastlines
- Increase in crime control and control of drug traffic
- Expansion of the transit system
- Pending decision in dual taxation suit
- Increased need of health and welfare services
- Construction of lead-in roads for completion of I-75 in Florida
- Acquisition of The Oaks, one of the last of the unspoiled sections on the coast
- Control of expansion of population in the Florida Keys — an environmentally delicate area

Accounting for a county concerns itself with many problems beyond the mere physical survival of county residents. Conservation of the land itself assumes new importance in a modern society, as does the quality of life for the inhabitants. Unassisted by metropolitan revenues, (but also uninvolved with urban complications) the county in a quasi-rural area faces enormous responsibilities. Its accounting program must serve it well as an aid in making sound decisions.

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[1]**U.S. Bureau of the Census:** *County and City Data Book 1977 (A Statistical Abstract Supplement)* U.S. Government Printing Office, Washington, DC 20402, 1978 — Table A-4 Population in 1975 and 1970 to 25,000 inhabitants or more in 1975 Population Rank Order.

[2]Bureau of Economic and Business Research, College of Business Administration, University of Florida: *Florida Statistical Abstract 79*. The University Presses of Florida, Gainesville 1979 — Table 1.31 Population: Census, April 1970, and Estimates, July 1978, for the States, Counties, and Municipalities of Florida.

Church Accounting

Good Intentions and Good Accounting

By Karol Beth Prentice

Research indicates that the accounting system in a majority of churches today is inadequate. The lack of internal control and properly trained financial officers within the church contributes to this deficiency. However, a sufficient body of knowledge has not been available to the churches in a form which they can either understand or implement. As a result of these shortcomings, financial reports are being prepared and presented to church boards and congregations which cannot result in a meaningful interpretation as to what has actually occurred. Therefore, this article will examine the present status of church accounting, the proper type of accounting system, the necessary financial personnel, internal controls, methods for keeping the books, financial statements, and the yearly audit.

Present Status of Church Accounting

Today, "... the church is, in simple dollar terms, wealthy .... the church's wealth is held by countless different groups, in many different forms (property, stocks, bonds, commercial interests, for example), and under hundreds of different types of arrangements" [Powers, 1971, p. 28]. This reason alone would be sufficient to strongly encourage the enactment and implementation of good accounting systems by such organizations. However, a second extremely important consideration relates to accountability. The church officers maintain a financial responsibility to the church congregation.

The problem with church accounting systems is that often these responsibilities have not been taken seriously. The Thomas Road Baptist Church of Lynchburg, Virginia evidences this fact. This church, which claims assets in an amount greater than fifteen million dollars, was charged by the Securities Exchange Commission with fraud and deceit in the sale of church bonds. In reply to this accusation, the pastor alleged inadequate bookkeeping, poor records, and rapid growth to be the causes of such problems [Ellis, 1974, p. 45]. If a church of this size and outreach is experiencing such problems, what must be happening in smaller churches where expertise is generally not available?

Because churches deal with relatively large sums of money, certain internal control procedures should be practiced. However, these sums of money are often handled in a very casual manner and the internal control process is ignored or even nonexistent. The dominant internal control problem involves control over cash receipts. Two other deficiencies in internal control relate to disbursements not properly authorized and the lack of segregation of responsibilities (receiving and depositing cash, posting to contributors' records and maintaining other accounting records).

Church members may experience difficulty in accepting an internal control system for one primary reason—they hesitate to acknowledge that wrongdoing or mismanagement could be caused by those in whom they have placed their utmost trust and confidence. Aside from the prevention of deception, there are numerous other benefits that would be realized with the installation of an adequate internal control system. Internal check provides a means of preventing and detecting error, safeguards assets from deterioration and theft, improves the reliability of accounting records, and avoids questions regarding dishonesty or mismanagement [Leathers and Sandars, 1972, p. 22]. Before any such system can become dependable, well-planned and well-developed accounting records and satisfactory segregation of duties must exist.

Various studies have been conducted by both public and private organizations in an attempt to establish guidelines for nonprofit concerns. In some industries, specific audit guides have been issued by the AICPA peculiar to their particular type of activity. Churches, whose needs, problems, and users are definitely unique, have not been considered in such studies. In 1971 the Catholic Church in the United States, with the aid of Peat, Marwick, Mitchell and Co., developed a guide to improve financial reporting entitled *Diocesan Accounting and Financial Reporting* [Robinson, 1977/p. 29]. There has been some consideration of such matters in the past, but greater strides must continue into the future.

Proper Type of Accounting System

As is true for all organizations, the first necessary step involves the establishment of goals—the identification of the church's overall purpose for existence. One author, James

Leahy [1974, p. 14], believes that such a determination hinges on first gaining a complete understanding of the community's needs. Goals can then be set which will quantifiably measure quantity and/or quality of results. Even though there exists the possibility that every church could have the same objectives and goals, time and effort should be spent in order to tailor these goals and objectives to meet the needs of each and every particular church body.

The accounting system must be designed to incorporate the goals and objectives of the church and to meet the needs of its users. The objectives of a church accounting system include the following [Woodard, 1976, p. 302]:

1. To produce complete and accurate accounting information as the basis for the handling of the financial affairs of the church in a businesslike manner.
2. To secure a sound financial foundation.
3. To keep members accurately informed on current financial matters and encourage their more active support.

Upon this foundation, a specific accounting system can be designed to meet objectives. Virtually every system should be implemented on a cash (instead of accrual) basis, should utilize a double-entry system (in contrast with a single-entry system), and should make use of simple fund accounting techniques.

Because of the many nonaccountant treasurers and financial secretaries, simplicity is the key in church accounting. Obviously, the cash basis method would be the easiest to implement. Even though this procedure may have only short-run applicability, it is still an adequate method for churches to employ. As previously mentioned, dollar accountability is the primary reporting function. The cash basis of accounting measures this area of accountability as it portrays the inflows, outflows, and balances of resources. Furthermore, there is no assurance that pledges will actually be honored or that bills will be paid if the anticipated revenues do not materialize. This problem is more critical for organizations like churches than it is for business entities. When utilizing the cash basis of accounting, the financial statements should state this fact and avoid the use of the terms expense and expenditure. Instead, the word disbursement should be referred to and utilized on the financial statements.

The double-entry system of bookkeeping provides a measure of protection and should be supported by the adoption of other internal control procedures. This system is required in order to insure that transactions are properly reflected in the records.

Fund accounting necessitates the use of separate groups of accounts or funds, each fund being a distinct accounting and reporting entity. It utilizes a complete double-entry set of records whose accounts are self-balancing. The use of these various funds enables managers to discharge their stewardship obligations and account for the use of designated and otherwise restricted assets. Examples of funds include the following: general fund, benevolence fund, building fund, missions, and debt retirement.

Necessary Financial Personnel

In order for any accounting system to be effective—whether in profit or nonprofit organizations—there exists a need for properly trained and educated personnel. In the church environment, these needs include a treasurer, financial secretary, counting committee, budget committee, and audit committee.

The ultimate responsibility for financial matters rests with the Board of Deacons or the Board of Trustees, not with the pastor. In large churches, a church business administrator may be necessary to supervise daily financial activities.

"If the assets are to be safeguarded, if there is to be protection against improper fund disbursement, and if there is to be no unauthorized incurrence of obligations, the accounting procedures and the operations must be separated—even in churches" [Keister, 1974, p. 41]. This separation of duties is an extremely important internal control device.

The treasurer supervises the accounting function. He has the responsibility of safeguarding the financial assets. His duties include preparing the financial statements for the church board and congregation, signing all checks, completing any necessary government forms (such as required for employees) and participating as a member of the counting committee. As to the function of signing checks, it is extremely important that checks not be signed in advance in blank. Before signing the checks, the treasurer should examine the supporting documents.

Simplicity is the key to church accounting.

Maintenance of the formal accounting records is one of the responsibilities of the financial secretary. Because of this duty, it is imperative that the financial secretary never handle cash. He/she also prepares the supporting documents for disbursements and then prepares and signs the checks before forwarding them to the treasurer.

Three members, the treasurer, a trustee, and one other church member, comprise the counting or tellers' committee. The latter two members of the committee should be rotated with other such people every several months. However, this rotation must be balanced with the aspect of confidentiality. Some church members may not be overly appreciative of general congregational knowledge as to the exact amounts of their gifts. The duties of this committee include counting the offerings, verifying the amount written on the outside of envelopes with the amount actually given, listing names and amounts from checks, completing the report for the financial secretary and making the deposit.

The budget committee unifies the budget. This responsibility does not involve the actual derivation of each individual budget, but does include

Church members tend to resist acceptance of an internal control system.

the job of preparing the budget for its various necessary approvals. This responsibility could be delegated to the treasurer.

The responsibility for the performance of the yearly audit of the church's books rests with the audit committee. Acting in this capacity, the audit committee has two choices. If the church is somewhat small, members of the committee could perform the audit themselves. In the case of large churches, the audit committee would be responsible for the selection of a CPA firm to perform the audit. Another somewhat related responsibility involves the preparation of the reports of contributions for church members. This being a means of internal control, it should be stressed that contributors should inform the audit committee when their personal records do not match their report. The bank reconciliation should also be prepared by a member of the audit committee.

It is important that the services of the most qualified people in the congregation be utilized. However, no matter how educated a person may be, some training will be necessary pointing to the importance of procedures manuals which clearly define the duties and responsibilities of each officer and how each job is to be done.

Because no accounting system is perfect fidelity bonds provide a cheap means of protection from fraud and embezzlement. A fidelity bond can serve two purposes: protection of the church and a psychological deterrent to a possible fraudulent financial officer. It is suggested that a church carry protection equivalent to the maximum amount of money subject to loss [Keister, 1974, p. 42].

Internal Controls

The primary concerns of internal control relate to cash receipts and cash disbursements. Internal control is imperative but often is overlooked [Leathers and Sandars, 1972, p. 22]:

> *In a typical situation these collections are made during the service by a voluntary team of ushers, left unattended during the remainder of the service, gathered up by the treasurer or chief usher following the service, and then hidden in a 'safe' place or locked in the church safe for counting and deposit by the financial secretary on Monday morning. In other cases the treasurer may count the collection but keep no record.*

As evidenced from the above situation there must be internal control over cash receipts. Money can be received by the church in two ways or at two different times: during the services and in the church office during the week. As previously mentioned, the counting committee's responsibility includes counting and depositing the money received in the services. Some type of receipts summary report should be prepared which indicates the source of receipt and its purpose. The source refers to whether the receipt was in the form of currency, bills, checks, or in an envelope with the latter two requiring itemization. The report also specifies the intended purpose of the receipt: undesignated or designated. A receipts summary report should be prepared in duplicate with one copy for the audit committee and one copy for the counting committee. Along with this report, the envelopes should be forwarded to the audit committee.

Occasionally special contributions may be received during the week. Receipts of this nature can be handled by the church secretary. A prenumbered receipt should be prepared by the secretary who then turns both items over to the counting committee for inclusion with the next offering.

The basic internal control weakness related to disbursements is lack of proper authorization. [Larson, 1957, p. 33]. The accounting system must, therefore, provide an indication that such approval has been granted.

Very rarely do churches utilize a purchase order and purchase requisition system. Excepting very large churches, such procedures are generally not practical or necessary. However, only authorized persons should be allowed to make purchases, and then only if there is an unobligated budget balance. Purchases over a set amount, regardless of their provision in the budget, should be requested in writing for assurance of sufficient funds to cover the cost.

Because the purchaser has knowledge of the receipt, the financial secretary will require him to initial the invoice when it arrives. The invoice is next compared with its supporting documents; the check is prepared, signed by the financial secretary, and given to the treasurer for his approval. The treasurer should never—under any circumstances—sign a check which is not accompanied by supporting documents. All disbursements, except for a small petty cash fund, are to be made by check.

If a desired purchase has no provision in the budget (in excess of a certain amount), it will need to be approved by the church membership or its delegation. Smaller purchases would require only the permission of the board with still smaller, nonbudgeted purchases at the discretion of the financial secretary and/or treasurer.

Methods for Keeping the Books

The system used to accumulate the data is a simple matter of preference, as long as all of the preceding requirements are met. The system needs to be as simple as possible. Consistency also plays an important role.

Because a double-entry system has been advocated, a journal becomes a necessity. "A more efficient method is to record transactions in a journal . . . and then to transfer amounts from the journal to the ledger . . . [Ellis, 1978, p. 13]. The ledger ought to be designed to show year-to-date disbursements, budget, and unencumbered balances [Floyd, 1969, p. 57]. Extremely small churches may choose to use the checkbook itself for these purposes instead of the ledger set-up. Care should be taken to assure that the proper funds are credited and charged.

Financial Statements

There are two broad categories of church financial statements: those used primarily by church management and the general-purpose statements used by the church congregation as a whole. Therefore, statements must be designed that can effectively communicate the accounting information to the board as well as to the congregation.

Those ultimately responsible for the church's financial affairs, such as the board of deacons or trustees, should receive three statements monthly for discussion at their meetings: statement of receipts and disbursements, balance sheet, and funds statement. The first statement would be a summary of the month's transactions or activities. (See schedule 1).

A balance sheet should be presented in order to provide comparative data on a monthly basis. The need to know the financial standing of the church as a whole at a particular point in time necessitates such a presentation.

The third statement to be presented to the board monthly is the funds statement. Such a statement provides comparative data for the detailed transactions occurring within each of the individual funds. (See schedule 2)[1].

> *When a financial report is distributed to an average congregation, probably the most common reaction encountered from church members is 'Why do they have to make these reports so complicated?' or perhaps 'What good is a financial statement if nobody understands it?'* [Crawford, 1978, p. 25]

Communication is the key to a well-prepared financial statement. An average church member will examine a financial statement to find answers to two questions: how much were cash receipts and cash disbursements, and what is the church's financial position regarding major fixed assets and liabilities.

SCHEDULE 1

Cash Basis Statement of Receipts and Disbursements
(To be Presented Monthly To The Board)

Church ______________________

Month ______________________ Year __________

Fund	Beginning Balance	Receipts	Disbursements	Ending Balance
General	$	$	$	$
Building				
Debt Retirement				
Benevolence				
TOTAL	**$**	**$**	**$**	**$**

SCHEDULE 2

Cash Basis Funds Statement
(To Be Presented Monthly to The Board)

Church ______________________

Year ______________________

	(Date)	(Date)
Beginning fund balance	$	$
Revenues—		
Plate collections		
Sunday school offerings		
Special collections		
Interest earned		
Miscellaneous		
TOTAL GROSS INCOME		
Disbursements—Operating		
Salaries		
Rent		
Utilities		
Supplies		
Telephone		
Insurance		
TOTAL OPERATING DISBURSEMENTS		
Net of operations	$	$
Capital disbursements		
Retirement of debt		
Transfers		
Net increase (decrease)	$	$
Ending fund balance	$	$

[1]Condensed and revised from a funds statement presented by Bruce Woodard [1976, p. 315].

SCHEDULE 3

Financial Report to Congregation (To Be Presented Quarterly)

Church ______________________________

	19X1 Actual		19X1 Budget		Budget (Over) Under	
	Qtr.	**YTD**	**Qtr.**	**YTD**	**Qtr. %**	**YTD %**
Undesignated Receipts						
Undesignated Disbursements:						
Salaries						
Sunday School						
Equipment						
Total Disbursements—undesignated						
Excess (deficiency) of Undesignated Receipts over Undesignated Disbursements						
Designated Receipts:						
Building Fund						
Missions						
Designated Disbursements:						
Missions						
Total excess (deficiency) of Receipts over Disbursements						
Add beginning cash balance						
Less: ending cash balance—Note A						
near future payables—Note B						
restricted balances—Note C						
Unobligated, unrestricted cash balance						

Note A — Cash balances:

General fund	$
Building fund	$
.....	
TOTAL	$

Note B — Near future payables include:

Accounts payable	$
Insurance payable	$
.....	
TOTAL	$

Note C — Restricted balances include:

Building fund	$
Missions	$
.....	
TOTAL	$

Note D — Non-cash property holdings .....

Note E — Liabilities and future cash commitments .....

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[2]The statement presented is a combination of two primary sources [Ellis, 1975b, p. 41] and [Crawford, 1978, p. 26].

Quarterly, a financial report is presented to the congregation. (See schedule 3)[2]. The suggested approach utilizes the presentation of only one statement with additional, helpful information set out in the footnotes. It summarizes relevant information and avoids being a conglomeration of hard-to-digest data. Thus, it is readable and should be understandable by a majority of the congregation. The important aspects of this type of statement include the following:

1. Data enabling the reader to compare the present quarter with year-to-date totals.
2. Data enabling the reader to compare the actual inflows and outflows with the budgeted inflows and outflows for both the present quarter and year-to-date totals.
3. Budget variances computed on a dollar amount as well as a percentage basis for both the present quarter and year-to-date totals.
4. Undesignated receipts and disbursements segregated from designated receipts and disbursements.
5. The status of the individual funds computed and their cash balances given.
6. The bottom line figure representing the unobligated, unrestricted cash balance, as this figure cannot be as readily manipulated by a treasurer seeking to present "good" statements.
7. The balance sheet aspects of reporting are condensed into the footnotes.
8. Any other significant information that would aid in the decision-making process presented in the footnotes.

Annual reports supplied to the congregation would follow closely the format of those prepared monthly for the Board of Deacons or Trustees. At such time, a verbal explanation by the treasurer should accompany the written statements. The treasurer should also answer any questions so that the congregation as a whole sufficiently understands the statements.

In the church setting, the budget provides a means of controlling the amount of cash disbursements. Therefore, it should be prepared with an extreme amount of care—not as in the following manner [Ellis, 1975a, p. 7]:

The chairperson begins: "The meeting will come to order. We have only one hour before Monday Night Football to approve budget requests for the coming year and to review program status reports supporting such requests."

"The chairperson of Project A requests a 10% increase over last year's budget. He failed to submit a report on goals for his project and results of last year's activities. Oh well, we know, the problem everyone is having with inflation; let's approve the request . . . .

"Now here's a new project—funds needed to promote A. Person for mayor. This raises a question concerning the church's participation in such an activity. A. Person is a member of our church; let's approve it, even though I'm not sure this is one of the purposes of our church . . . .

"The director of Program H says he can't submit a list of goal accomplishments because he forgot to remind the secretary to collect data each month. Nevertheless, he feels the program was worthwhile. I'm sure he knows what he's talking about . . . .

(And so the meeting goes until members rush home to watch Monday Night Football.)

The budget should be prepared on a quasi-program basis. Some items lend themselves toward a program budget approach (Sunday School, Missions, Youth Groups) and thus should be budgeted in this manner. However, other necessary disbursements such as the pastor's salary, utilities, building and grounds expense do not. It would be impractical to group these necessary cash outlays into individual programs.

The second guideline in budget preparation involves the use of the ground level approach. As a starting place, the lower level personnel such as Sunday School teachers or choir directors should submit their proposals to the budget committee. Once all of the proposals have been received, the budget committee has the responsibility of unifying the process. After presentation to the Board for approval, all of the fine details should be ironed out and an agreement reached. The final step requires approval by the membership of the church.

Accounting statements must be designed that will communicate to both the church board and congregation.

Yearly Audit

"Because there is virtually no internal check in church accounting the audit is all the more important" [Slade, 1960, p. 153]. Regardless of the size of the church, a yearly audit is necessary. This audit is the responsibility of the audit committee and can be performed by either members of the church or an external CPA firm.

Although audits by external professional accountants provide an excellent measure of evaluation, their costs may preclude many churches from seeking the services of such individuals. The benefits derived must be weighed against the cost of such a service. The benefits of an external audit include [Holck and Holck, 1978, p. 238] —

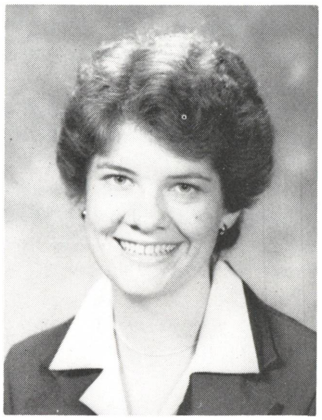
1. *A congregation can receive professional assistance in the preparation of its financial statements and reports from an outside expert.*
2. *Because internal controls are often lacking in a congregation's cash handling procedures, an independent auditor can make suggestions and initiate changes no member would think about or could ever achieve.*
3. *An opinion regarding the congregation's financial statements gains credibility when a Certified Public Accountant makes the audit.*
4. *Any payroll tax problems or unrelated business income reporting forms can be accurately completed by an independent auditor.*

If a member or members of the church are delegated to perform the audit, care should be taken to enlist the most qualified personnel in the church to do the job. This person or persons should make every effort to conduct the audit in conformity with the generally accepted auditing standards. The overall objectives of the church to be considered are [Ellis, 1978, p. 108] —

1. *To determine that adequate internal control procedures exist, and that such procedures are being followed.*
2. *To determine that all donations to the church were deposited and recorded correctly.*
3. *To determine that securities were safeguarded, and that related revenue was collected and recorded.*
4. *To determine that disbursements were properly authorized—i.e., that the budget was followed or that changes were approved—and that authorized members approved payment of invoices.*
5. *To determine that payments to vendors at year end were not delayed because of overspending the budget.*
6. *To determine that records were maintained on plant and equipment items, and that adequate insurance was obtained.*
7. *To determine compliance with federal and state regulations, including properly and timely paid employment taxes and income taxes, if applicable.*
8. *To recommend improved procedures and practices.*

Call for Action

The problem of inadequate church accounting and reporting systems deserves and needs attention. The weaknesses found within the internal control process and within the financial statements themselves demand correction. Further studies need to be conducted with the results made available to the individual churches in a form which is understandable and applicable.



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REFERENCES

Crawford, David E., "A Communications Approach to Preparing Church Financial Reports," *The National Public Accountant* (May 1978), pp. 25-27.

Ellis, Loudell O., "Internal Control for Churches and Community Organizations," *The CPA Journal* (May 1974), pp. 45-48.

Ellis, Loudell O., "The Evaluation of Resource Usage in the Not-for Profit Environment," *The Woman CPA* (April 1975), pp. 6-8.

Ellis, Loudell O., "Cash Basis Reporting for Churches," *The CPA Journal* (May 1975), pp. 39-44.

Ellis, Loudell O. *Church Treasurer's Handbook* (Valley Forge: Judson Press, 1978).

Floyd, Alpha C. "Management Accounting for Churches," *Management Accounting* (NAA) (February 1969), pp. 56-59.

Frederickson, Roy C., "Simplified Cash Receipt System for a Nonprofit Organization," *The Journal of Accountancy* (January 1961), pp. 81-82.

Holck, Sr., Manfred and Rev. Manfred Holck, Jr. *Complete Handbook of Church Accounting* (Englewood Cliffs: Prentice-Hall, Inc., 1978).

Keister, Orville R., "Internal Control for Churches," *Management Accounting* (NAA) (January 1974), pp. 40-42.

Larson, Lowell, "Church Accounting," *The Journal of Accountancy* (May 1957), pp. 28-35.

Leahy, James P., "Pastoral Planning," *Management Controls* (PMM) (January 1974), pp. 14-17.

Leathers, Park E. and Dr. Howard P. Sandars, "Internal Control in Churches," *The Internal Auditor* (May/June 1972), pp. 21-25.

Powers, Charles W. *Social Responsibility and Investments* (Nashville: Abingdon Press, 1971).

Robinson, Daniel D., "Of God and GAAP," *World* (PMM) (Autumn 1977), pp. 29-31.

Slade, F. V. *Church Accounts* (London: Gee and Company (Publishers) Limited, 1960).

Woodard, Bruce A. "Churches," *Encyclopedia of Accounting Systems* (1976).

The Challenge of Managing Cities

Scarce Revenue, Surging Needs

by Sylvester Murray

The definition of cities indicates that they are legal entities individually incorporated under the laws of their respective states. They have established boundaries, with elected and appointed officers, with defined and limited authority, and with taxing and regulatory powers.

Cities can sue and be sued, and they can undertake certain activities such as the sale of water, or the ownership of a stadium or Cable-TV system which are essentially proprietary in nature.

Cities can be defined as economic production units supplying goods and services for public consumption. Included among the commodities marketed by cities, for example, are police and fire protection, sewer and other utility services, parks and recreation programs, building inspections, streets and highways, street lights, and human development programs. Payment for these goods and services takes the form of taxes, service charges, special assessments, fees, and fines.

Cities are also catalysts for human interaction. Traditionally, they are collection points for people, ideas, goods, and commerce.

Cities exist separately and independently from the individuals who head them at any given time. But it is the responsibility of those interim leaders to provide real and sincere leadership. The challenge of city leaders is to manage during their two or four or ten year terms as if their management alone would make the difference between no quality and high quality in the lives of people in that city now and for scores of years to come.

It is an awesome challenge that cannot be thought met simply because the leaders do not get "citizen complaints" at City Hall. The leaders must meet this challenge by satisfying citizen complaints and taking the initiative to plan strategically for the future, then implement the plans. They must anticipate the needs of people and be willing to take some political risks in striving to meet those needs.

It is a challenge to manage effectively. A book by Joseph Pechman, *(Setting National Priorities Agenda for the 1980's,* Washington, D.C., Brookings Institution, 1979), carried the position of political scientist James Sundquist that we are in or approaching a crisis in government. But the crisis is one of competence in government rather than a crisis in the policies that government has been pursuing. It is a truism that categorizes our national government as well as city governments across the country.

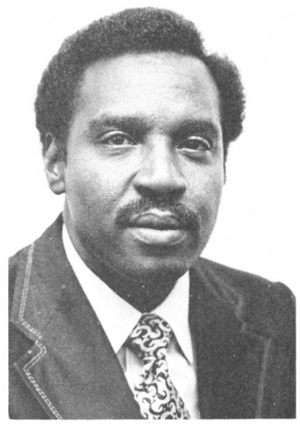
Sundquist suggests that there are deep seated trends at work, which, along with such familiar features of the political landscape as the separation of powers, will make effective government even more difficult to attain in the 1980's than before. One of the structural developments that mitigate against government effectiveness is the deterioration of administrative capability. Sundquist concludes that a crisis of competence in turn has produced a dangerous crisis of confidence in government at every level.

It is becoming increasingly important to recognize the difference between objectives and plans on the one hand and performance on the other. Many people and committees and task forces can sincerely define objectives and say what government ought to do. But things don't just happen. Good administration is needed. Capable managerial talent is more difficult to find in government than in private industry, probably because of pay scales and politics. But the challenge is still there.

People programs are what city government is about. People programs are social programs. They are more ambitious and often more complex than private industry programs. Therefore, city government managers must be skilled in both business practices and human interactions. They must be able to say no to an idealistic objective which rationally cannot be implemented. But they must be able to say and explain it in a way that does not demoralize or appear insensitive to the group that set the objective. The government manager must understand the principles of economics that must be considered in making public policy.

The challenge of managing cities can be succinctly summarized with the position taken by Charles Schultze, Professor of Economics, University of Maryland ("The Role of Incentives, Penalties, and Rewards in Attaining Effective City Policy," a paper dated October, 1974). He related that objectives, plans, and budgets are not synonymous with actions and results. Promises are not performance. The adoption of an urban development plan does not guarantee that urban investment will fit the plan. The formulation of a model city neighborhood plan will not itself produce a model neighborhood. When a particular public program must be carried out by a complex governmental structure and a host of private decision-makers, it becomes crucial that those who execute the program are capable and have incentives to act in directions which are consistent with the objectives of the program.

Cities exist. But to maintain or improve on the quality of life in cities, good management must be present.



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The Fine Arts Fund

Urban Trustee For A Legacy

By Constance T. Barcelona

The author gratefully acknowledges the assistance of Paul G. Sittenfeld, *President of Cincinnati Institute of Fine Arts. His cooperation and professional insight have made the following article possible.*

Humankind is never more uniquely human than in its yearning for some sense of beauty amid the random events of a lifetime. Animals give no evidence of artistic hunger, although many are strongly social and most are subject to elation and despair. People are different. From recorded time music has swelled with triumphal marches and lilted through elegant salons; it also has wailed with the mourners, abandoned souls and slaves on the delta. Ritual dance has marked spring plaintings, fall harvesting, weddings, victories, the start of the hunt. Greek dramatists and worldwide generations of their successors have highlighted the human condition. Graphic and sculptural arts appeared simultaneously, recording the beauty of Venus and Mona Lisa, but also, alas, commemorating Guernica; the raptures and the horrors of the human spirit.

Artistic expression parallels the drive for food and shelter and family. It springs from hunger and surfeit alike and is surpassed only by the pervasiveness of the quest for religion, whose protege it has often been over history. The arts are a legacy. Yet enjoyment of that legacy by the average individual, and its perpetuation, requires more money than most people ever amass singly so fulfillment of the artistic legacy depends on either patronage or communal subsidy.

Time was when regents and great families in Europe subsidized museums and music and the performing arts but, even so, the peasantry had little access to such artistic display. And in the United States until very recently the free enjoyment of the arts remained a privilege limited to the wealthy. On occasion, the pageantry and glamor still occur, but more and more Americans in raincoats and sturdy work shoes are peopling art shows and symphony concerts. The ready availability of the arts in some cities is due to an aggressive plan to fund the arts so that all who wish to can enjoy them.

The Fund

In spite of their spiritual and otherworldly beauty the arts must struggle for representation in a very worldly and competitive manner. Money granted for the ballet cannot be used again for the opera. Coppelia must yield occasionally to Carmen, or the other way around, and the walls of the museum cannot be left bare, either. A practical solution emerges with a central agency to raise funds, maintain the funds, and then allocate them as fairly as possible. Accounting must be accurate, with full cognizance of unrestricted and restricted funds, and restrictions on uses of income from the funds.

As a last generation of immensely wealthy patrons dies away, and with it, to some extent, the tradition of patronage, the need for civic sponsorship of the arts becomes urgent. Old money has been diluted in many instances but there is an abundance of new money to be wooed and won for community enrichment. Community betterment involves several worthy causes such as charitable subsidy or educational endowment or cultural support. Mutations of the Community Chest, or United Appeal, or Red Feather Agency appear almost everywhere, as do dedication ceremonies for a new wing for the engineering building at the local campus, or a new building for the college that produced a highly successful graduate, each addition named, of course, for the prime benefactor.

The Fine Arts Fund is not so typical. Of some 3,000 communities in the United States that could be classed as urban, only fifty have such a central fund raising agency. The smallest cities so graced are Hutchinson, Kansas, and Decatur, Illinois. Larger ones include Milwaukee, St. Louis, Ft. Worth and Cincinnati, and the latter is used as reference for this article.

The Fund itself is the revenue raising subsidiary of a governing committee, or central institute, composed of an array of community leaders who are elected for five year terms, and eligible for reelection. Institute membership with its prestige and responsibility may typically be shared by the president emeritus of the local university, board chairmen from Fortune 500 industrial and financial entities that have home offices in the city, the archbishop of the diocese, and prominent professional people. In addition, the mayor serves ex officio. A broad constituency of influence is thus achieved, along with an aura of solidarity and power. The institute acts as an elegant umbrella for those artistic groups it selects to sponsor.

The Cincinnati Institute of Fine Arts is the oldest of fifty similar sponsoring committees across the United States, having been established in 1927. It supervises a General Fund, a Property Fund, various endowment funds, the Taft Museum Fund, and the Fine Arts Fund.

The Fine Arts Fund that functions under Institute aegis was not started until 1949; by 1978 it had eight official beneficiaries including the symphony, the opera, the ballet, two art museums, the legitimate stage playhouse, a contemporary arts center, and the May Festival which is a choral/symphonic expression indigenous to Cincinnati and perpetuating a strong cultural tradition of that city.

Ancillary benefits from the Fund are available on an occasional basis through the "Projects Pool" for special projects sponsored by ethnic or cultural groups. For instance, support was provided for a program of dancing for a school for the deaf; for a creative expression festival for a group of handicapped children, for a local school for the performing arts, and for a three day residency by a performing artist at a neighboring community. Beneficiaries of the Projects Pool do not enjoy consistent year-in, year-out support as do the eight primary members sheltered by the Fund, but they are eligible for special grants when a proposed activity seems of merit. In 1980 the Projects Pool awarded forty grants ranging from $300 to $5,000.

Resource Provision

The annual drive for funds uses the same techniques as the drive for charity support by the United Appeal. A preliminary campaign is addressed to corporate donors and special gift donors who are not routinely approached through places of employment. Special gifts come from affluent and philanthropic members of the community, sometimes retired and sometimes from the city's great families. The donors may represent as few as three percent of the total contributors, but they provide a substantial part, perhaps as much as half, of total dollars ultimately collected.

The president of the Cincinnati Institute of Fine Arts thinks that the real hope for the future of fine arts funding lies in expansion of employee contributions. He works to enlist the corporation of corporate employers and partners in professional firms in approaching their employees, without pressure. He is confident that the people of his community care about the quality of life for themselves and their children, and will support the arts. He also considers the payroll deduction program the only economical way to raise funds since the cost/benefit ratio for door-to-door solicitation is unfavorable. At Cincinnati the payroll deduction plan for the Fine Arts is just beginning, unlike the United Appeal campaign which is well established.

In addition to the proceeds of the fund raising campaign, revenues arise from investment income, less distribution of restricted endowment income, and from capital gains resulting from sale of properties held by the Institute, as well as gifts and bequests, both restricted and unrestricted. In the preceding year Cincinnati received funds from the National Endowment for the Arts on a challenge, or matching funds, basis. These are being held in trust until the matching funds are completely collected.

Specific revenue raising activities are pursued by each of the eight Fund beneficiaries, all of whom are subject to the fund-raising guidelines of the Institute. The symphony, the ballet, the art museums, the playhouse and the May Festival all have loyal supporters who activate special events such as auctions, raffles, bazaars, pre-event suppers and post-event dances, and quasi-social meetings with the artists. Income from such special-interest activities goes directly to the befriended artistic group and is not channeled through the Fine Arts Fund.

Ironically, affiliation with the Fund as beneficiary may impose constraints on the single-minded supporters of one arts group. It is conceivable that a single group like a symphony orchestra could sever ties with the Fund and mount an active campaign for civic support.

Assessment of the success of a museum, theatre, ballet or symphony is a subjective process.

Symphonies are expensive to maintain and growing more so, as evidenced by the rash of strikes among musicians in some symphony cities. It may be that a smaller city can ill afford even its fine professional orchestra, much less other art forms, but if symphony sponsors are sufficiently powerful and if their campaign wins popular approval then most of a city's available dollars could be preempted by the symphony orchestra.

In this milieu the Fine Arts Institute tries to effect a fair distribution of scarce means to several arts groups through its Fine Arts Fund. Participating beneficiaries give tacit, if unenthusiastic, consent to the revenue raising restrictions imposed by the Fund.

Allocation of Funds

Allocation involves hard choices, as always. Structured within the Institute is a Budget and Allocations Committee composed of four Institute board members who have no service affiliation with any of the eight beneficiary groups. They are people of established community prestige, as is the entire membership of the Institute, so there is a certain noblesse oblige to their decision process. Although they are not haunted by choices among relative degrees of human deprivation, as are the distributors of United Appeal funds, still they can be faced with the opprobrium or approval of their own peer group in what is a very subjective process.

Allocation of funds from the Projects Pool is done by a second group of Institute members, separately from the allocations to the principal Fund beneficiaries.

Distributions from the Fine Arts Fund and General Funds are at the

The arts should be available for the enjoyment of the entire city.

discretion of the Board of Trustees. Endowments and similar funds are distributed in accordance with the restrictions of the gift instruments.

Financial statements and budget projections prepared by beneficiaries are only one part of the criteria for funds allocation decisions. Attendance and popular acceptance might be deemed a sign of achievement but standing room only signs are not a paramount objective of the cultural program. "Annie" will crowd the concert hall better than a performance of "Aida;" however, a substantial portion of the city's dwellers prefer to hear Verdi and similar classical composers frequently and to induct younger members of their families into the delights of fine music. Similarly, a season of frothy plays might bring smiles to almost everyone, especially to those who count the box office receipts but adherence to a trivial repertoire discriminates against people who would like to consider the probing qualities of drama by Eugene O'Neill or Arthur Miller, or the enigma and paradox of a Pinter play.

Minority considerations enter into the allocation decision, and the cultural elite are only one minority group. Racial and ethnic groups are also considered in allocation of The Fine Arts Fund. Fund beneficiaries are expected to provide exposure to the arts for everyone in the city who has a yearning, even occasionally, for something beyond popular television and the movies. Such is the democratic dream; unfortunately there never is enough money available for all of the arts or all of the interests.

Politics and controversy might seem inevitable in such a subjective terrain. Abstention from political considerations gives evidence of the highly ethical posture of the Institute's members, and that of the Budget and Allocations Committee.

Controversy is inevitable, however, especially as it feeds in from members of the community who are unappreciative of modern free form sculpture, or offended by what they perceive to be obscenity or vulgarity in graphic arts and the theatre. When objections become significant in number the artistic group itself, whether museum or theatre, will presumably have to respond. The Cincinnati Institute of Fine Arts and the Budget and Allocations Committee of the Fine Arts Fund refrain from dictating policy, and from involvement with management of any of the sponsored arts groups.

Financial Reporting

The Institute and seven of its beneficiaries prepare formal financial statements which are audited annually by certified public accountants. The eighth beneficiary, the Taft Museum, is wholly owned by the Institute so its fund is reported as part of the Institute group, as is the Fine Arts Fund.

Statement of Financial Accounting Concepts No. 4: *Objectives of Financial Reporting by Nonbusiness Organizations,* (FASB December, 1980) indentifies users of financial reports of nonbusiness organizations to be: (a) resource providers, (b) constituents, (c) governing and oversight bodies and, (d) managers. The Institute and its resource raising arm, the Fine Arts Fund, represent the first two groups and to some extent group (c), but only in an oversight capacity inasmuch as they scrupulously avoid direct supervision of any of their beneficiaries. Institute members are substantial, but by no means exclusive, donors to the arts and provide the impetus for fund raising from the community at large.

The auditor's certificate for the Cincinnati Institute of Fine Arts reads: "No accounting controls exist with regard to solicitation of contributions and pledges for the 1980 Fine Arts Fund prior to the initial entry of the contribution or pledge in the accounting records. Accordingly, it was impracticable to extend our examination beyond the receipts or pledges recorded."

Statement of Financial Accounting Concepts No. 4 presents as a first objective:

> *Financial reporting by nonbusiness organizations should provide information that is useful to present and potential resource providers and other users in assessing the services that a nonbusiness organization provides and its ability to continue to provide those services.*

Financial statements by individual beneficiaries of the Fine Arts Fund might be considered feasibility statements, and certainly must be thought of as stewardship reports. However, assessing the services of a ballet company, the legitimate theatre, symphony orchestra or contemporary arts museum requires infinitely more subjective judgment than appraisal of a store or factory. Assessment of cultural services may be even more difficult than appraisal of performances by hospitals and colleges in that the two latter are considered necessary to our level of civilization, while enjoyment of the arts is a discretionary luxury.

Each of the eight established beneficiaries of the Fund is required to submit an annual budget projection, supplemented with a narrative explanation of the year's activities and planned activities for the year ahead. Financial statements and budgets of participating arts groups are then reviewed by the Institute's Budget and Allocations Committee, within the constraints of an inflationary economy. The Committee looks for reasonable costs, indexed to price level changes, and for sales revenue that is proportionate to similar activities in other cities.

Significant Accounting Policies

As the umbrella organization for financial support of arts in the community the Cincinnati Fine Arts Institute acts as trustee for endowed funds, a General Fund, and the Fine Arts Fund, and owns the Taft Museum and the Cincinnati Symphony. Ownership of the Symphony is one of form rather than substance because assets are limited to some office furnishings. The Taft Museum, on the other hand, is housed in a residence of great historic value and contains art objects of immeasurable quality. The accounts of the Symphony are not included with Institute holdings because operating control of the orchestra is under a separate Board of Trustees.

The accounts of the Institute are maintained in accordance with the principles of fund accounting to ensure observance of limitations and restrictions placed on use of resources. Funds are classified according to activities or specified objectives, with indication of any restriction on the use of such funds or the revenues they may generate.

Deeds of gift for endowment funds often specify restrictions that the principal be invested in perpetuity, and that the income be either unrestricted and for general purpose, or restricted for specific use as indicated by the donor. Restrictions of either principal or income are observed in the financial accounting, with full disclosure of resources and distributions for each of the funds.

In 1944 a consolidated investment pool was established for the various funds under Institute supervision, with each fund receiving participating units based on the market value of the securities, or cash equivalent, invested in the pool. Additional investments receive additional pool units based on market value at the time of addition. Revenue from investments is recognized when earned, and allocated to participating investors on the basis of pool units owned.

Ownership of the Taft Museum places an immensely valuable art collection in the trust of the Cincinnati Institute of Fine Arts. The museum building and building improvements are not depreciated in the accounts, as the asset is an historical landmark. The land and building are recorded at values established by an independent appraisal in 1932.

Art objects are not included as assets in the balance sheet of the Institute in conformity with practices at similar institutions. The art collection of the Taft Museum must be perpetually maintained and preserved unimpaired in conformity with the terms of the original gift instrument. It is the intent of the Institute to preserve the Taft Museum building and art collection in perpetuity.

International Accounting

P. Pacioli's Law:

Wrong Accounting Results in Wrong Behavior

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Department Editor's Note: We are pleased to print below the acceptance speech given by Prudence Pacioli, an indirect descendant of the famous 15th century monk, when she was presented with the Accountant of the Year Award by the Professional League of Accountants in Generally Unprofitable Enterprises (PLAGUE) in an unidentified Eastern capital. Ms. Pacioli's speech is especially suitable for this issue, since all accounting in socialist countries is governmental accounting due to government ownership of all enterprises.

Dear Colleagues: Thank you very much for electing me PLAGUE Accountant of the Year for 1980. Last year was a really gratifying year for our organization, because more and more enterprises became unprofitable, resulting in a tremendous increase in our membership and making our slogan "PLAGUE in every business" very popular.

For the topic of my acceptance speech I chose Pacioli's Law which I discovered recently. Pacioli's Law, as formulated by me, states that "the wrong accounting results in the wrong behavior." The opposite is, however, *not* necessarily true. Correct accounting does not always, or even frequently, result in correct behavior due to the interference of Murphy's Law (If anything can go wrong, it will.[1]) or Pudder's Law (Anything that begins well, ends badly. Anything that begins badly ends worse.[2])

The Collection of Evidence

I discovered Pacioli's Law the way any scientist discovers the laws that govern the operation of our universe. I observed various business phenomena and then looked for the guiding principle which shaped and explained these events.

The first piece of evidence I collected, quite accidentally, when I received delivery of a dishwasher from the Drab Department Store in early 1980. I had signed the customer order list in 1978 and paid the full price for it, as requested, in July 1979.

In anticipation of the arrival of the dishwasher I had collected an assortment of dishes, mostly my own, which I promptly deposited neatly inside the machine as soon as it was properly hooked up. When I switched the dishwasher on, it emitted what I thought were noises appropriate to the mechanical cleaning of china (which were rather similar to the noises made by men when they are asked to do the dishes). When the commotion inside the machine died down, I opened it and discovered that most of the dishes had been broken into small, but very clean pieces. My initial reaction was annoyance until I realized that the dishwasher had, indeed, eliminated the chore of washing dishes for me, not only for that day but for however long it will take me to replace these dishes (or the friends who loaned me theirs).

The repair person I hired (for hard currency sent me by my aunt Millie O. Nare) discovered that the machine was short a number of screws, nails, and brackets. I obtained these missing parts (through an ad in the *Daily Intelligence* in exchange for a bathroom sink, two light bulbs, and three gloves, but no partridge in a pear tree) from a person who works in a people-owned enterprise that manufactures dishwashers. As soon as the missing ingredients were deposited inside the dishwasher, it worked perfectly on pots and pans. Since I have not yet been able to replace the dishes (or the friends), I don't know whether it will also work perfectly on china.

The next two pieces of evidence came to me almost simultaneously and, again, accidentally. (After all, this is not the sort of thing one looks for deliberately.) I was standing in line last fall in the Drab Department Store to pick up the TV set I had ordered and paid for in 1977, when I overheard a conversation about a washing machine. A woman behind me in the line told her friend that, when she turned her new washing machine on for the first time, it tore her clothes to shreds. However, she added, the machine did it so successfully that it was impossible to tell whether the pieces were clean or still dirty. The shredding action was caused, in her opinion, by a combination of the rough edges on the agitator and the absence of some screws which would have kept the agitator firmly anchored in its place instead of permitting it to agitate all over the inside of the machine. I filed this information away in my mind, not knowing that I had acquired another piece of evidence.

When I received my TV set, it was packed in a box. Due to Ettore's Observation (The other line moves faster.[3]) my line of people waiting to pick up their sets was by now quite long. I was therefore not allowed to open the box and look at my set in the store. Consequently it wasn't until I got home that I discovered that my TV set lacked a picture tube. After several months of advertising in the *Weekly Intelligence* (intelligence had, by now, become so rare that there was only enough for a weekly, not a daily, issue) I finally succeeded in locating a repair person with a spare picture tube which she installed in my set (in exchange for an ERA pin, two Lily Tomlin records, and an electronic pocket calculator).

Since I was unable to watch TV without a picture tube, I used these video-less evenings to read accounting books and to ponder the problem of the defective appliances. I rejected from the first the idea of a correlation between the faulty construction and our latest thirteen-year plan of socialist economic development. I also rejected the thought that the defects were simply another instance of Flap's Law of the Perversity of Inanimate Objects (Any inanimate object, regardless of its composition or configuration, may be expected to perform at any time in a totally unexpected manner for reasons that are either totally obscure or completely mysterious.[4]) The TV set had, in fact, behaved in the manner expected of a set without a picture tube.

I had almost concluded that these appliances illustrated Murphy's Law (see above), when I realized that the Drab Department Store had an abundance of children's clothes and absolutely no clothes, male or female, calculated to fit anybody above age seven. Since Murphy's Law could not explain the absence of adult clothing, I began to look seriously for another explanation. And here my reading of current accounting books lead me to the discovery of Pacioli's Law.

The Economic Function of the Accounting System

In our socialist economy accounting is used as an instrument to manage and plan the activities of people-owned enterprises. The accounting system must, therefore, fulfill two functions: (1) it must record and control the production process as prescribed by the government's economic plan for the enterprise, and (2) it must teach managers and workers not only to protect and increase the nation's property, but also to think in cost-benefit terms. These are the economic and behavioral functions, respectively, of a socialist accounting system.[5]

The government's plan for an enterprise, as we all know, determines what is to be manufactured and in what quantities, provides technical blueprints for all items produced, and describes the production process. Since the prices for all goods and services are set by the proper governmental authorities, the cost of producing every item is determined in advance. The results of operations in financial terms are, therefore, also determined in advance as is the division of the planned net income between the government and the enterprise.

The accounting system fits into the economic plan because it is designed to record and monitor the manufacturing process and to determine and display any negative or positive deviations from the plan. In this manner it fulfills its economic function.

To use an example let us assume that a factory's plan calls for the production of 100 TV sets during a period. From the technical blueprint for the TV set it is determined that for this production the factory needs, among other parts, 100 picture tubes, 100 cabinets, 400 legs for the cabinets, 100 channel selector knobs, 100 volume control knobs, and similar components. The accounting system is then designed to record the purchase of the parts necessary for the production of 100 TV sets, and the cost accounting system monitors the costs as the parts make their way through the production process and become TV sets. Assuming that everything goes according to the plan, the factory will produce the 100 TV sets at the predetermined cost and realize the planned net income. In this case the accounting system will have fulfilled its economic function.

Continued on Page 24

The Behavioral Function of the Accounting System

The behavioral function of the accounting system is tied to both the net income and the production goal. In order to serve as a strong motivating force, planned net income is generally divided evenly between the government and the enterprise, whereas deviations from planned net income are allocated disproportionately to the enterprise. In other words, if actual net income is less than planned net income, the enterprise gets less than 50 percent; and if actual net income is more than planned net income, the enterprise gets more than 50 percent.

The production goal reinforces net income as a motivator, since production virtually always results in sales due to the temporary shortages we have experienced in consumer goods for the last thirty-five years. Not only are the workers interested in fulfilling the economic plan, they are also strongly motivated to exceed the plan because, in addition to the larger share of net income, they get many rewards for excess production, such as free Saturdays, citations for meritorious service, and—in extraordinary cases—even medals.

Free Saturdays provide time for searching for repair parts for defective appliances the worker may have at home, while citations and medals can be very advantageously displayed atop, or strung across the screen of, a non-functioning TV set. In the event a worker receives a particularly coveted medal it can be beautifully enshrined within the gleaming interior of an inoperative refrigerator, providing that the little inside light is in good working order.

Because each worker wants to proudly display a chest full of medals at the annual factory picnic (financed by the enterprise's share of planned net income), most people-owned enterprises exceed their planned production. Unfortunately, this can often be accomplished only at the price of quality.

To illustrate the point, let us return to our example of the manufacturer of TV sets. If this factory wants to increase its production above 100 TV sets per period, it must either obtain more parts or produce more TV sets with the available parts. For two reasons the second alternative is usually chosen: (1) it is generally impossible to get more parts, and (2) net income is increased more if sales are increased without a corresponding increase in production costs. The results are TV sets without a picture tube, like mine, TV sets stuck on one channel because the channel selector is missing, TV sets which must be propped up against a wall because they have only three legs, and similar aberrations from the ideal. Thus everyone has something to talk about while standing together in line to pick up some long-awaited new appliance.

The same motivating force of the accounting system works in the factory producing dishwashers. Here the screws, nails, and brackets sufficient for 1,000 dishwashers may be stretched over 1,050 dishwashers, resulting in 1,050 dish breakers, rather than 1,000 dishwashers.

The abundance of children's clothing and the shortage of adult clothing can also be explained by the behavioral function of the accounting system. By manufacturing smaller sizes, a factory can naturally produce more clothing. Because the retail price of clothes is set by the authorized government department and is usually not related to the amount of material used in a garment,[6] children's clothes are generally more profitable than adult clothes. The clothing manufacturer is therefore motivated to produce and sell children's clothing.

Conclusion

These examples show that the present accounting system rewards the wrong behavior. Of course, this would not be the case if consumers limited their purchasing to high quality merchandise, to items they really need, and to the qualities they need. But given the temporary shortages we have had since World War II (and the low interest rates paid on savings accounts), consumers tend to prefer virtually any merchandise to money. Therefore people buy everything they can get, they get into every line they see without knowing or caring what is being sold at the end of it, and they accumulate inventories of all sorts of things in their attics and basements.

One result of this behavior is that the stores are always sold out and have given up the functions of storing and financing inventories. These functions have been assumed by the consumer. The other result is that people do not go shopping for items they need, since they know that the stores don't have them anyway. Instead they advertise in the periodic *Intelligence* (intelligence has, by now, become very unpredictable) and offer to exchange what they have for what they need.

When I arrived at this point in my thinking, I realized that I had discovered the principle explaining the production of defective and unwanted merchandise by our people-owned enterprises: The Wrong Accounting Results in the Wrong Behavior. This principle I call Pacioli's Law.

NOTES

[1]Paul Dickson, *The Official Rules* (New York: Delacorte Press, 1979) p. 123.
[2]*Ibid.*, p. 154.
[3]*Ibid.*, p. 47.
[4]*Ibid.*, p. 59.
[5]Duenter Goll et al, *Buchfuehrung* (Berlin: Verlag Die Wirtschaft, 1975) p. 1.
[6]J. W. Jakowez, *Die Preise in der Planwirtschaft* (Berlin: Verlag Die Wirtschaft, 1976), p. 75.

With this issue The Woman CPA is pleased to introduce **Joyce M. Lunney,** *CPA, as Editor of the Tax Department. She is tax manager in the Philadelphia office of Arthur Andersen & Co. Ms. Lunney holds a B.S. and M.S. in Accounting from The Wharton School and is currently president of the Philadelphia Chapter of ASWA.*

Tax

A Potpourri of Provisions —

Tax Law Changes of 1980

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During 1980, Congress passed a myriad of tax legislation including the Installment Sales Revision Act of 1980, the Bankruptcy Tax Act of 1980, as well as, the Crude Oil Windfall Profit Tax Act of 1980, just to mention a few bills. This article will serve to highlight significant changes promulgated in 1980. Detailed analysis of specific legislation can be obtained by reading any of the numerous articles available concerning the particular legislation in question.

The Installment Sales Revision Act of 1980 — This act retroactively eliminated the requirements for more than one payment and for receipt of not more than 30% in the year of the sale. The elimination of both these requirements is effective for any disposition in any taxable year ending after October 19, 1980.

In addition to eliminating these two qualification requirements, the Act eliminated the necessity of electing the installment method. Less publicized, however, is that this automatic treatment was not made retroactive. Thus, for any sale occurring on or before October 19, 1980, an affirmative election to use the installment method is still required. [§ 453, 453A, 453B]

Bankruptcy Tax Act (HR5043) — While the purpose of this legislation was to overhaul the tax laws relating to bankrupt and insolvent taxpayers in order to match the earlier general reform of the bankruptcy laws, the act contains provisions that affect solvent taxpayers. The reason for changing the tax laws relating to solvent taxpayers was to create neutrality between that group and bankrupt and insolvent taxpayers.

The Bankruptcy Tax Act may curtail the practice of companies acquiring their own debt or that of subsidiaries, since they must adjust the basis of depreciable assets to defer the tax on income from discharge of indebtedness. Furthermore, stockholders who transfer debt of the corporation as a capital contribution will trigger discharge of indebtedness income to the corporation to the extent the face amount of the debt exceeds its adjusted basis. However, if stock is issued for debt, even short-term debt, no discharge of indebtedness is realized. On the other hand, if the debtor takes a bad debt deduction for any part of the debt surrendered for the stock, the amount of the writeoff is recaptured as ordinary income when the stock is later sold. The new provisions apply to any transaction, insolvency or bankruptcy proceeding entered into or begun after December 31, 1980. However, any insolvent or bankrupt can elect to apply these provisions retroactively to October 1, 1979, provided the proceedings were commenced on or after that date. [§ 108, 368(a) (1) (G), and 1017]

The Crude Oil Windfall Profit Tax Act of 1980 — This act retroactively (to 1/1/80) repeals the carryover basis rules. The result of this repeal is that appreciated property left by a decedent dying after '79 will continue, as in prior years, to be "stepped up" to its fair market value as of the decedent's death for income tax purposes. The Act also allows an election of carryover basis where this is beneficial, with respect to property acquired from decedents dying after '76 and before November 7, 1978. [§ 1023]

Another provision which will benefit millions of individual taxpayers (after '80) exempts up to $200 ($400 on a joint return) of interest and dividend income. [§ 116]

In addition, the law creates a new item of recapture applicable to corporate liquidations where basis is determined under § 334(b) (2). The new item called the "LIFO recapture amount" is the difference between the amount of inventory under the FIFO method and the LIFO method. A similar rule applies in the case of a 12-month liquidation. [§ 336(b) and 337(f)]

Revenue Adjustment Act (HR7765) — The gain on sales of U.S. real estate including stock in a domestic U.S. Real Property Holding Organization (RPHO) by foreigners after June 18, 1980 will be subject to a minimum rate of 20%. [§ 897]

— For taxable years beginning

after December 31, 1980, corporations must base their installment payments on at least 60% of actual current year's tax liability if their taxable income was at least $1 million or more in any of the three preceding years. This change effectively takes away the right of these corporations to base the current year's estimate on the prior year. [§ 6655]

— For wages paid after 1980, if the employer pays the employee's share of FICA or state unemployment compensation, this payment will be considered "wages" for purposes of FICA and UC purposes. [§ 3121]

— Tax-exempt housing mortgage bond rules have been revised. More stringent limitations will be applied to the use of such proceeds for financing housing mortgages. [§ 103A]

Tax Treatment Extension Act (HR6975) — This act brought together a number of provisions that extend certain sections that were about to expire. The new law:

— Extends the ban on IRS issuing regulations reclassifying certain independent contractors as employees and also extends the relief provided by the Revenue Act of 1978 to employers who had a reasonable basis for treating workers as independent contractors. The current extension would have expired at the end of this year. The new law extends the prohibition through June 30, 1982.

— Extends through 1983 the right of taxpayers to amortize over not less than 60 months rehabilitation expenditures for certified historic structures. Disincentives for razing such structures were also extended for the same period. [§ 191]

— Extends through 1983 the right of taxpayers to amortize over not less than 60 months certain rehabilitation costs for low-income rental housing. [§ 167]

—Makes permanent the right of taxpayers to claim a charitable deduction for contributions of easements and partial interests in real estate when made for conservation purposes. A partial interest is defined as the entire interest in realty, except the subsurface minerals and right to their access. The law also defines conservation purposes and provides procedures for valuation of such contributions. [§ 170]

— Makes permanent the exclusion from gross income of scholarships received under certain federal programs if used for qualified tuition and related expenses. Also extends through 1981 the exclusion for National Research Service Awards. [§ 117]

HR 3317

— Allows credits for certain excise taxes involving tread rubber and distilled spirits/wine. [§ 4071 and § 5010]

— An employer can claim a deduction for furnished facilities, awards or prizes granted to an employee if reported by the recipient as wages. A temporary law accomplished this, but now the provision has been made permanent. Recipients including nonemployees must include the value of the facility, award or prize as income, and the payor must file a Form 1099 (if value is $600 or more) in order to qualify for the deduction. [§ 274]

— Replacement period for nonrecognition of gain on the sale of a taxpayer's principal residence under very limited circumstances, will be extended from the two-year period to a five-year period.

Two days before final adjournment, Congress passed seven miscellaneous tax bills. While none of the provisions in these bills can be characterized as broad in scope, they are important to many taxpayers.

HR 5505

— Certain auxiliaries of fraternal organizations and certain social clubs such as religious alumni clubs will not lose their tax-exempt status even though membership is limited to members of a particular religion. [§ 501(i)]

— Tax may be withheld on sick pay by nonemployers. Sick pay is taxable to the recipient except in limited circumstances, and is subject to withholding tax if paid by the employer. However, it is frequently paid by an insurance company. The bill now allows insurance companies to voluntarily withhold from such payments. [§ 3402(o)]

HR 4155

— Private foundation reporting requirements are eased by reducing the number of required reports and dropping the need to file reports with certain "other persons." This change is effective for 1981. [§ 6033, 6056]

— Foreign branches and foreign subsidiaries can deduct contributions to their foreign pension plans when computing U.S. tax liability, although the plans do not meet the requirements of U.S. laws (ERISA) for qualified retirements plans. The changes apply to contributors or accruals after 1979, except they are retroactive to earlier years, at the taxpayer's election, by paying deficiencies and interest on deductions claimed earlier for contributions to foreign pension plans. However, an amount is recoverable over 15 years, commencing with 1980, that would have been allowed for contributions had this change been in effect for the earlier years. [§ 404A]

— Transfers effective after 1974 of proven oil and gas well interests are permitted to a controlled corporation in exchange for all its stock without loss of percentage depletion for oil and gas that is granted on the first 1,000 barrels per day. This depletion allowance is allocated between the corporation and the stockholders; the new law applies to production after 1979. [§ 613A]

— The Alternative Minimum Tax (AMT) can now be offset by the investment tax credit that is attributable to the active conduct of a trade or business. Prior to this, the only offset to AMT was the foreign tax credit. [§ 55]

HR 5391

— When making the determination of adjusted itemized deductions for the computation of the Alternative Minimum Tax (AMT), the charitable contribution deduction of a charitable lead trust is not to be taken into account. However, for this exclusion to apply, the grantor and holder of the reversionary interest of the trust must be a corporation. [§ 57]

HR 5973

— Waives the residency requirement (in order to deduct foreign living costs or exclude earned income) for U.S. citizens working abroad who had to flee a foreign country (such as Iran) because of civil unrest or similar circumstances. This relief is available for all open years. [§ 913]

— Distributions from a money purchase pension plan may be rolled over tax-free by an employee or the surviving spouse to an IRA or to another employer-sponsored qualified plan even though the distributee may be a participant in a pension plan (defined benefit plan) provided by the same employer, and the proceeds of the latter plan are not distributed. This change applies to taxable years beginning after December 31, 1978. [§ 402]

— The tax treatment of expenses of attending foreign conventions has been revised. Deduction for the expenses of attending a convention outside the North American area will be allowable if it is as reasonable for the convention to be held at the foreign situs as in the United States. The new law contains standards for determining reasonableness of the location of the convention. A meeting is not a foreign convention unless it is held outside the United States and its possessions, including the U.S. Pacific Trust Territories, Canada and Mexico. The limitations on subsistence and travel allowances are repealed, as well as, the special substantiation and reporting requirements. The new law applies to expenditures after December 31, 1980. [§ 274]

HR 7956

— The bill provides relief for spouses living apart in community property states. Starting next year, if the spouses live apart for the entire year, no part of the income earned by one spouse will be taxed to the other spouse, unless transferred to the nonearning spouse.

— Start-up costs of a business may be amortized over not less than 60 months. These costs include investigatory expenses. This provision applies to expenses paid or incurred after July 20, 1980. [§ 195]

— It revises the rules regarding whether income from the lease of an aircraft, vessel or spacecraft is treated as U.S. or foreign source income.

— Tax relief is provided for homeowners' associations. While these organizations are generally tax-exempt, they are nonetheless subject to tax on nonexempt function income at 46%, the highest corporate rate. Long-term capital gains are taxed at 28%. Under the new laws, the rate of tax on all nonexempt function income of homeowners' associations will be 30%. [§ 528]

— Prevention of abuse of certain employee benefit requirements is now affected by applying aggregation rules with respect to the treatment of certain service organizations and related organizations for purposes of satisfying requirements for qualified employee plans. The provision requires that all employees of employers who are members of an affiliated service group be treated as employed by a single employer except as provided by Treasury regulations. [§ 414]

— It allows a refund or credit of taxes paid by state police officers on cash meal allowances reported as income for returns filed in 1974, 1975 and 1976.

— Qualified pension or profit sharing plans are exempted from the debt-financed limitations applied to real estate investments. The debt-financed rule requires exempt organizations, including qualified retirement plans to report unrelated business taxable income based on the ratio of indebtedness on certain realty to the realty's adjusted basis as applied to the net income from the realty. Qualified plans are exempt from the rule only if certain conditions are met. The bill contains an amendment stating that exempting qualified plans from the debt-financing rules is not to be taken as a precedent for its extension to other tax-exempt organizations. [§ 514]

— Annuity pensions paid to certain qualifying nonresident aliens will not be subject to the U.S. 30% withholding tax, even though the annuity is based on the alien's earnings in the United States and the return on plan assets is from U.S. sources. [§ 871]

— The cafeteria plan for selecting taxable and nontaxable fringe benefits by an employee is expanded to include deferred compensation plans that operate under the rules of cash or deferred profit sharing or stock bonus plans. This change is effective for taxable years beginning after 1979. [§ 125]

— Revisions were made to the ESOP and TRASOP rules that generally provide greater flexibility in the use of these kinds of benefit plans.

— Stock bonus plans are permitted the same flexibility on distributions granted to ESOP's. Bonus plans may distribute cash rather than stock providing the distributee has the option to demand stock. If distributed shares are not readily tradeable, the distributee must also have the right to require the employer to repurchase.

— For charitable remainder trusts to qualify for an estate tax deduction, they must meet certain requirements imposed by the Tax Reform Act of 1969. An additional extension has been granted until December 31, 1981 to amend or commence judicial proceedings to amend charitable lead trusts or charitable remainder trusts executed before December 31, 1977. [§ 170]

HR 4968

— REIT operating loss carryover rules have been liberalized. [§ 172]

— Certain retirement plans, such as HR-10 and IRAs, may be funded with special government retirement bonds. The bill authorizes the Treasury to make upward adjustments in the interest rate on such outstanding bonds, so that the yield will be consistent with newly-issued government retirement bonds.

— Individuals who meet the foreign residency or presence test or who perform qualified charitable services in less-developed countries may elect, in lieu of claiming excess living costs, to claim an exclusion of $20,000. This is computed on the same basis as those who qualify for a $20,000 exclusion, because they reside in camps in hardship areas. However, such employees would not qualify to claim this exclusion if they are employed by a private foundation. [§ 913]

— House Joint Resolution 644 bars the IRS from using appropriated funds to disqualify employee benefit plans or to refuse to approve new plans that meet or intend to meet the so-called 4-40 rule of vesting. The President signed the resolution into law.

Advanced systems have been defined as those systems which possess one or more of the following characteristics: data communications, data integration, automatic transaction initiation, unconventional or temporary audit trail.[1] These characteristics are not unique to large-scale systems and in fact have been incorporated in many small processing.

Systems using data communications and data bases can operate in either a real-time or batch processing mode.[2] Most installations use a mixture of the two. Thus, an installation may use real-time processing for inquiries and batch processing for updating. Another approach would be to do all processing in real-time.

Data Communications and Remote Input/Output

Advanced systems frequently employ input/out devices which are at locations remote from the central processing unit. The remote devices are usually connected to the computer through telecommunication lines which are leased from a common carrier. The communication lines are available at various speed ratings and are usually either *dial-up lines* (the connection is completed by use of a normal dialing procedure) or *leased lines* (dedicated service, the user has exclusive use of the communication line). The remote locations of the input/output devices make it more difficult to control access to the system than in an installation where all input devices to the computer exist within the controlled environment of the physical installation itself. Thus, techniques have to be introduced to identify the users of the I/O devices and to control their access to the central processing system and its information files.

This need for control of access exists in any environment but is especially critical when input/output devices that have entry to the processing system are at locations physically remote from that of the central processing unit. It should be stressed that the use of remote input/output devices and telecommunication lines does not make a system a real-time system. If a group of transactions are collected at a remote location and transmitted at one time to a central location, this is a batch processing system. The characteristic that makes the use of these telecommunication lines part of a real-time system is recording, transmitting, and processing the transaction immediately as it occurs.

There are a great variety of devices available for use as remote input/output operations. Some of these devices are manually operated terminals in which the operator uses a keyboard or some other device, such as a light pen, to actually record the data for transmission, usually one record at a time. Other devices are essentially high-speed transmission devices which read prepared documents (cards, magnetic tape, or other machine-readable records) and usually transmit these documents a group or batch at a time. When such high-speed devices are in use, they are usually employed in some form of remote job entry and are usually involved in a batch processing application.

Some installations use telecommunication lines to communicate with remote locations in an off-line environment. In off-line activities, data is not transmitted directly to the computer but is transmitted to another device located at the installation, such as a magnetic tape handler or a card punch, and the machine records thus received are held for later processing. In other installations, the remote devices are linked through the communication lines directly with the central processing unit. In still other applications, the data communication lines can be used to link two computers which can communicate with each other. An increasingly popular configuration is one in which a network of small computers, usually used for local processing, can be linked to large central computers so that the sharing of information and processing can occur throughout the network thus created. In such configurations, conventional files are frequently replaced by data bases. This approach is called *distributed processing.*

The use of remote input/out devices in data communications is available in both large and small systems. It has the effect in many applications of moving the data capture function closer to the source of the data and the original user. This technology also makes it possible to move information from one processing system to another automatically.

Remote input/output devices and data communications do not change the requirements for physical protection of the equipment and data files. However, the existence of remote input/output devices by which access can be gained to the files of the system through long distance transmission lines does present a potential control problem. First, there are many more potential access points compared with the relative tively few devices in a system without remote terminals, and second, the remote location of these input/output devices makes the physical control of the devices more difficult. Procedures for identification and authorization of users of the remote devices are critical.

Integrated Files and Data Base Systems

Historically, computerized accounting systems employed conventionally structured files— i.e., a separate file for each application or group of applications. This approach had the advantage of simplicity, for a given file contains all the data items needed for the programs that process it. However, it also has disadvantages:

Some of the information in one file is also contained in other files and thus results in data redundancy.

Several files may contain different versions of data common to both of them. This happens when not all files are updated by current transactions on a timely basis or when the various updating programs produce different results.

These disadvantages can be mitigated by integrating the data items into a few common files, perhaps even a single file, called a *data base.* These data remain on-line and are processed by all the programs in a given system. For example, there may be a data base for the sales, accounts receivable and cash receipts system, another for the purchases, accounts payable, cash disbursements system and yet another for the payroll-personnel system. Or, there may be one data base for everything: all systems access the same data base.

Data integration results in the combination of the data records for several different operations with similar information into single comprehensive sets of records. This process of creating single comprehensive records and thus a single comprehensive file minimizes the necessity for duplicate operations and duplicate records. These integrated sets of data records, called the data base, become the master file for a number of different applications in the system.

The processing for a data base is characterized by the fact that a single document describing a transaction is used to initiate the updating of all records or data elements associated with that transaction and affected by it. Although this results in an elimination of redundancy within the master files and more efficient handling of all facets of the transaction, it places a very heavy responsibility on the installation for maintenance of that single data base. Under this approach all of the pertinent master information and historical data is contained within one single master file or data base, and erroneous processing or inadvertent destruction of that single data base can have more serious implications for an organization than the destruction of an individual application master file that is only one of several master files for a firm. Data bases can be updated or integrated on either a real-time or a batch-mode basis.

Control Requirements for Integrated Files

Access controls for the data base should encompass both those activities that can affect a change in the files (updating) and those activities that simply involve reading the data files (inquiry). The data files represent a real asset whose value can be diluted as much by unauthorized access and reading as by incorrect updating. Access controls become even more critical when the data base is maintained on-line, making the information accessible to all devices within the computer system. This is to be contrasted with files that are maintained on an off-line basis, such as tape, and require an actual mounting of the data file before they can be interrogated through the computer. If the on-line data base exists in a system which has remote terminals, access controls must be concerned with all users having access to either the remote terminals or to the central processing facility.

In an integrated data base containing many different data elements from different applications, individuals may have authorization to access specific modules or elements within the data base. A carefully constructed system of authorization for access to each data element in the system must be established to prevent improper access or manipulation by persons without legitimate reason for accessing the information. Furthermore, responsibility for each data element in the data base must be established and assigned. A good security system must not only control which data elements a user is entitled to access but also the operations that may be performed. Control should be exercised over which programs a user is allowed to execute. Whether an existing record in the file may be updated or simply read, whether the user is authorized to add a new record, or whether the user is authorized to eliminate or delete a record from the data file must all be made a part of the system specifications and controls.

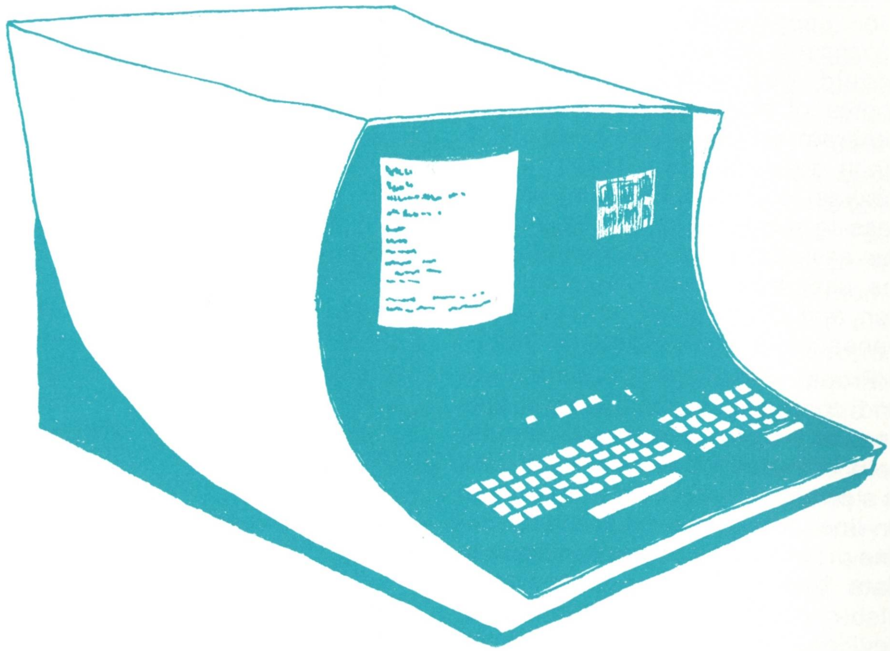
Another function that must be carefully controlled within the installation is the identification of those individuals who have the right to change the access authorizations within the system or execute those programs that interpret or otherwise update the user identification routines. Once a system of identification has been worked out so that the processing routines and the data files the individual user may access have been identified, it is important to protect the integrity of these identification codes or passwords. Individual users must be impressed with the importance of maintaining the confidentiality of their password, and steps must be taken to prevent unauthorized access to the identification scheme. One of the easiest ways to permit access to the passwork or identification code is to allow those passwords to be printed on a terminal during the normal processing performed on that particular terminal.

Passwords or identification codes should not be made available to the computer operators or systems programmers on a normal basis. Consideration should be given to periodic rearrangement or changing of the passwords in order to prevent publication of the passwords. Installation management must control access to the identification codes and processing programs to prevent systems programmers from either gaining access to that information or modifying it for their own use. The installation management should exercise continual care in reviewing the operations of the computer to insure that knowledgeable operators have not themselves attempted to access the data.

In addition to identifying legitimate users and preventing unauthorized access to the data files, a file security system should also provide regular notification to the operations management or the security officer of the installation when unauthorized attempts to access the data base are made. Attempts to gain unauthorized access can be handled immediately by techniques that lock the terminal keyboard or simply fail to respond to these initial inquiries. In the case of critical information, such an attempt could cause a message to be relayed to an appropriate security officer who could investigate the terminal in question.

In addition to preventing access, it is desirable to maintain a log of unauthorized attempts to access the data files in order to determine whether there is some pattern involving a particular user, a particular terminal location, or a particular element of the data base. If a pattern can be discerned, the opportunity to identify the illegal user or strengthen the security system is enhanced. In the case of a particularly sensitive element, it may be desirable to maintain a log of all accesses to the records within that data element. This log can then be periodically reviewed to assess the way that segment of the data base is being used as well as to review the efficiency of the control procedures maintained for that file.

As with any other data files, provision must be made to provide adequate backup for the data base system. Since data base systems are usually recorded on direct-access devices and processed by destructive updating, which does not provide a grandfather-father-son backup procedure, it is necessary to make some provision to prouce backup copies of the file periodically. This can be done either by periodic dumping or by an adaptation of a logging procedure. As each update takes place within the data base, a log can be constructed before processing the transaction to create a copy of the master record. After processing, a copy of the updated master record would be made. If any disruption of processing takes place or if the data base were physically damaged, it would be possible to use the latest file dump or the reconstruction log (whichever technique is used) to reconstruct the physical data base.



In a data base environment, the organization and maintenance of the master data is separated from the application programs. A separate group of software programs, called the *data base management system,* organizes, records, and retrieves data elements from the data base making specific elements available to the application programs when updating is necessary. This is in constrast to the approach used when individual application files are created and maintained by the application programs themselves. This separation of function causes some change in the approach to maintenance and protection of the data files. Many installations use a data base administrator whose responsibilities are to develop the organization of the data base, including identification of the elements and the logical relationships of the individual data elements to each other and to the various applications systems. The data base administrator is also responsible for the documentation of the data base and the implementation of the control and security measures developed for that data base system.

In organizations large enough to support staff specialization, the data base administrator represents a separate individual or staff. It should be recognized, however, that many small installations employing minicomputers also use the data base approach. While the separation of responsibilities makes it desirable that a different individual act as data base administrator from the person operating the system and developing application programs, that separation may not be possible. If this is the case, then alternative controls must be instituted to compensate for that lack of segregation of responsibilities within the staff.

Impact on the General Controls[3]

The use of data communications, on-line integrated files, and the availability of interactive processing generally results in a great deal of automatic processing of a transaction after its introduction into the system. This will increase the significance of the programmed systems controls and the controls dealing with the transaction-initiation function. Separation of the responsibilities for initiating transactions and processing them remains imperative as the data-capture function is moved closer to the user group through the use of remote terminals.

The use of a transaction log, controls totals, or internal program checks that verify the accuracy of the transaction itself are all more meaningful when provision is made for independent input records in the user departments. This does not necessarily mean that the system should be forced to reproduce copies of source documents or to generate unnecessary printed matter. It does require that the system provide for carefully controlled access to the input terminals and for the assignment of responsibility to the user department for authorization and subsequent verification of transactions used to process data.

Proper identification of the user, and control of access to data files and the program libraries is another area of increased significance. This is a particularly sensitive issue in an on-line environment, featuring on-line program libraries and integrated data files in a processing system also containing multiple remote I/O devices. Because so much of the processing is automated, protection of the integrity of the program libraries—both application programs and systems support programs, such as the operating system—is critical. Logs should be maintained of all accesses to those program libraries and of any changes made to the libraries. Periodic tests should be made of the program library to insure that unauthorized changes have not in fact occurred. Authorized changes to the program library should be properly documented indicating the nature of the change and the authorization for the change.

The installation should be prepared to react to any unexpected emergency occurring within the processing environment. Correction routines should be in operation to handle normal errors within transmission or processing procedures. In addition, preplanned procedures and programs should be available to handle major failures and the resulting restart activities. Restarting a distributed system with multiple input/output operations or a real-time updating operation requires a sequence of operations that frequently is quite demanding. The potential for losing transactions or for repeating others is great, and the potential for operator error is increased under the duress of an emergency situation if the operator has not be thoroughly trained in a predetermined and tested plan of action for emergency situations. Similarly, good processing control requires that adequate attention be given to the need for file reconstruction and for the preservation of sufficient file and transaction information to allow for reconstruction of the data base in a acceptable time frame.

Once detected, error conditions within the system must be corrected. This may require reintroduction of corrected data. Error-correction procedures are complicated when the transactions are initiated at a remote location or when the updating is taking place in a real-time environment.

When data is introduced from remote locations, the system should be designed to notify the terminal user of the disposition of each transaction. Then should a system failure occur, the terminal user will be aware of those transactions that have been processed and of those transactions that have not been processed and require additional operator action such as reentry into the system.

Impact on Application Controls

The use of programmed self-checking digits, existence checks, combination checks, completeness checks, and reasonableness checks provides a method by which individual transactions can be examined for accuracy by the computer before the transaction is used in processing. If the processing is being done in a batch mode, these programmed checks can be implemented in an edit program which checks all of the transactions at one time. In a real-time environment these checking procedures must be included in the data entry program itself since the nature of real-time processing is to process a transaction as soon as it occurs. Again, it should be recognized that the nature of an application control is not changed by the existence of remote terminals or integrated on-line files. The decision to apply this technology in either a batch-mode or real-time environment, however, will affect the timing of some of these application controls.

Accumulative control totals, record counts, or logs of transactions continue to be effective control tools. In the case of batch processing environments, these accumulated totals can be used to balance data prior to the next processing step. In the case of real-time processing, these totals are not accumulated until after the processing has been completed. But they continue to be useful, for they provide a means to verify that all transactions have in fact been recorded and subsequently processed. In the real-time mode, as transactions are entered over a period of time, they can be posted to accumulative totals. At the end of the specified period of time, the accumulated control totals can be compared with similar controls being maintained at the initiation point. The balancing operation can be facilitated by procedures that identify the terminal and/or the user and can accumulate controls by these subdivisions. The presence of the balancing or control totals can be used both to verify application controls and to check on the transmission accuracy of the communications network. Remember that in a real-time environment these control totals or batch totals are used after the fact. They should always be used as a supplement to the data verification procedures implemented before the transaction is used in processing.

These control totals can usually be accumulated as a by-product of the transaction log. While the transaction log can be used for balancing and improving the total processing performed over a period of time, it usually provides no protection against the omission of original transactions; the log simply contains copies of original transactions actually entered through the input terminals. Further, if an erroneous transaction goes by the input controls and is allowed to enter the system, it would be reflected as it was entered on the transaction log. If independent controls are maintained on the actual transactions and the control totals (calculated either through an accumulation routine or totals from the transaction log) are compared with these independently developed control totals, a better control exists for determining that all transactions have in fact been entered into the system.

In those instances where the system itself generates a transaction (as in the automatic reorder function in an inventory control system), it is important that the system document the existence of that machine-generated transaction by producing some hard-copy memorandum that can be verified by an independent check of the activity.

All transactions must be properly authorized by the user department. Listing all transactions processed during a preceding period and returning the list to the supervisor of the original department facilitates verification of the authorization of all processed transactions. Similarly, restrictions of terminals to authorized users can also constitute approval of the documents generated by that terminal.

Controls must also be instituted to prevent loss of transactions. The control totals mentioned previously represent one approach. Still another that can be employed is to provide serial numbers for each transaction. In some cases this can be done by the terminal operator. Thus, as each operator sends a message, a serial number is attached to the message. As the computer receives the message, it can check that the serial number from each message received is one higher than the serial number from the previous message received from that particular operator or that particular terminal. A variation on this approach is to allow the computer itself to generate a serial number which is attached to each transaction and recorded on the transaction log.

The use of serial numbers allows the system to keep track of all transactions entered into the system. If a hardware or software breakdown occurs, or if the application program malfunctions, the system has a means of identifying the fact that a transaction has not been properly processed. System-generated control or serial numbers can be used in the same way that serial numbers or preprinted numbers are used on normal source documents. For those computer systems that contain electronic clocks, the serial number can be expanded to include a time designation as well.

Summary

The techniques discussed above make systems potentially faster, more efficient, and more versatile. It is possible to move data collection closer to the source of transactions thereby eliminating a lot of previously necessary data handling activities. In some cases data acquisition can be handled automatically without any human intervention. The use of integrated files or data base systems can eliminate the duplication of information that previously existed in separate application files and can facilitate more efficient access and updating of those integrated files. These advantages make it possible to use automated systems in all aspects of an organization's operations and to make information available on a sufficiently timely basis to be an important resource in the decision-making process.

While these technological advances offer promise for increased efficiency and effectiveness, they also represent the need for new approaches to control and security. Communication techniques that allow for remote collection of data at the user site also produce the opportunity for unauthorized access to the processing system if adequate controls are not implemented to protect against that danger. Elimination of intermediate processing and automatic generation of transactions may eliminate previously available documents and thus change the traditional audit trail. In order to enjoy maximum benefit from the efficiencies of the techniques available in advanced systems, it is necessary to develop control procedures which will protect the integrity of these systems and the data processed.

NOTES

[1] *Management, Control, and Audit of Advanced EDP Systems,* (New York: American Institute of Certified Public Accountants, 1977), p. 5.

[2] For a discussion of real-time systems, see "Implications of Real-Time Systems for Accounting Records," by Elise G. Jancura in *The Woman CPA,* January 1975 and April 1975.

[3] See the Audit and Accounting Guide, *The Auditor's Study and Evaluation of Internal Control in EDP Systems,* (AICPA, 1977) for a detailed discussion of General Controls and Application Controls.