Financial Reporting
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CHAPTER 1

Introduction to Financial Reporting

Introduction to Finance:

Finance is the allocation of assets and liabilities over time under conditions of certainty and uncertainty. A key point in finance is the time value of money, which states that a unit of currency today is worth more than the same unit of currency tomorrow. Finance aims to price assets based on their risk level, and expected rate of return. Finance can be broken into three different sub categories: public finance, corporate finance and personal finance.

Personal finance

Questions in personal finance revolve around

- Protection against unforeseen personal events, as well as events in the wider economy
- Transference of family across generations (bequests and inheritance)
- Effects of tax policies (tax subsidies and/or penalties) on management of personal finances
- Effects of credit on individual financial standing
- Planning a secure financial future in an environment of economic instability

Personal finance may involve paying for education, financing durable goods such as real estate and cars, buying insurance, e.g. health and property insurance, investing and saving for retirement.

Personal finance may also involve paying for a loan, or debt obligations. The six key areas of personal financial planning, as suggested by the Financial Planning Standards Board, are:

1. **Financial position**: is concerned with understanding the personal resources available by examining net worth and household cash flow. Net worth is a person's balance sheet, calculated by adding up all assets under that person's control, minus all liabilities of the household, at one point in time. Household cash flow totals up all the expected sources of income within a year, minus all expected expenses within the same year. From this analysis, the financial planner can determine to what degree and in what time the personal goals can be accomplished.
2. **Adequate protection**: the analysis of how to protect a household from unforeseen risks. These risks can be divided into liability, property, death, disability, health and long term care. Some of these risks may be self-insurable, while most will require the purchase of an insurance contract. Determining how much insurance to get, at the most cost effective terms requires knowledge of the market for personal insurance. Business owners, professionals, athletes and entertainers require specialized insurance professionals to adequately protect themselves. Since insurance also enjoys some tax benefits, utilizing insurance investment products may be a critical piece of the overall investment planning.

3. **Tax planning**: typically the income tax is the single largest expense in a household. Managing taxes is not a question of if you will pay taxes, but when and how much. Government gives many incentives in the form of tax deductions and credits, which can be used to reduce the lifetime tax burden. Most modern governments use a progressive tax. Typically, as one's income grows, a higher marginal rate of tax must be paid. Understanding how to take advantage of the myriad tax breaks when planning one's personal finances can make a significant impact.

4. **Investment and accumulation goals**: planning how to accumulate enough money - for large purchases and life events - is what most people consider to be financial planning. Major reasons to accumulate assets include, purchasing a house or car, starting a business, paying for education expenses, and saving for retirement. Achieving these goals requires projecting what they will cost, and when you need to withdraw funds. A major risk to the household in achieving their accumulation goal is the rate of price increases over time, or inflation. Using net present value calculators, the financial planner will suggest a combination of asset earmarking and regular savings to be invested in a variety of investments. In order to overcome the rate of inflation, the investment portfolio has to get a higher rate of return, which typically will subject the portfolio to a number of risks. Managing these portfolio risks is most often accomplished using asset allocation, which seeks to diversify investment risk and opportunity. This asset allocation will prescribe a percentage allocation to be invested in stocks, bonds, cash and alternative investments. The allocation should also take into consideration the personal risk profile of every investor, since risk attitudes vary from person to person.
5. **Retirement planning** is the process of understanding how much it costs to live at retirement, and coming up with a plan to distribute assets to meet any income shortfall. Methods for retirement plan include taking advantage of government allowed structures to manage tax liability including: individual (IRA) structures, or employer sponsored retirement plans.

6. **Estate planning** involves planning for the disposition of one's assets after death. Typically, there is a tax due to the state or federal government at one's death. Avoiding these taxes means that more of one's assets will be distributed to one's heirs. One can leave one's assets to family, friends or charitable groups.

**Corporate finance**

Corporate finance is the area of finance dealing with the sources of funding and the capital structure of corporations and the actions that managers take to increase the value of the firm to the shareholders, as well as the tools and analysis used to allocate financial resources. Although it is in principle different from managerial finance which studies the financial management of all firms, rather than corporations alone, the main concepts in the study of corporate finance are applicable to the financial problems of all kinds of firms. Corporate finance generally involves balancing risk and profitability, while attempting to maximize an entity's wealth and the value of its stock, and generically entails three primary areas of capital resource allocation. In the first, "capital budgeting", management must choose which "projects" (if any) to undertake. The discipline of capital budgeting may employ standard business valuation techniques or even extend to real options valuation; see Financial modeling. The second, "sources of capital" relates to how these investments are to be funded: investment capital can be provided through different sources, such as by shareholders, in the form of equity (privately or via an initial public offering), creditors, often in the form of bonds, and the firm's operations (cash flow). Short-term funding or working capital is mostly provided by banks extending a line of credit. The balance between these elements forms the company's capital structure. The third, "the dividend policy", requires management to determine whether any unappropriated profit (excess cash) is to be retained for future investment / operational requirements, or instead to be distributed to shareholders, and if so in what form. Short term financial management is often termed "working capital management", and relates to cash-, inventory- and debtors management.
Corporate finance also includes within its scope business valuation, stock investing, or investment management. An investment is an acquisition of an asset in the hope that it will maintain or increase its value over time. In investment management – in choosing a portfolio – one has to use financial analysis to determine what, how much and when to invest. To do this, a company must:

- Identify relevant objectives and constraints: institution or individual goals, time horizon, risk aversion and tax considerations;
- Identify the appropriate strategy: active versus passive hedging strategy
- Measure the portfolio performance

Financial management overlaps with the financial function of the Accounting profession. However, financial accounting is the reporting of historical financial information, while financial management is concerned with the allocation of capital resources to increase a firm's value to the shareholders.

Financial risk management, an element of corporate finance, is the practice of creating and protecting economic value in a firm by using financial instruments to manage exposure to risk, particularly credit risk and market risk. (Other risk types include Foreign exchange, Shape, Volatility, Sector, liquidity, Inflation risks, etc.) It focuses on when and how to hedge using financial instruments; in this sense it overlaps with financial engineering. Similar to general risk management, financial risk management requires identifying its sources, measuring it (see: Risk measure: Well known risk measures), and formulating plans to address these, and can be qualitative and quantitative. In the banking sector worldwide, the Basel Accords are generally adopted by internationally active banks for tracking, reporting and exposing operational, credit and market risks.

**Financial services**

An entity whose income exceeds its expenditure can lend or invest the excess income. Though on the other hand, an entity whose income is less than its expenditure can raise capital by borrowing or selling equity claims, decreasing its expenses, or increasing its income. The lender can find a borrower, a financial intermediary such as a bank, or buy notes or bonds in the bond
market. The lender receives interest, the borrower pays a higher interest than the lender receives, and the financial intermediary earns the difference for arranging the loan.

A bank aggregates the activities of many borrowers and lenders. A bank accepts deposits from lenders, on which it pays interest. The bank then lends these deposits to borrowers. Banks allow borrowers and lenders, of different sizes, to coordinate their activity.

Finance is used by individuals (personal finance), by governments (public finance), by businesses (corporate finance) and by a wide variety of other organizations, including schools and non-profit organizations. In general, the goals of each of the above activities are achieved through the use of appropriate financial instruments and methodologies, with consideration to their institutional setting.

Finance is one of the most important aspects of business management and includes analysis related to the use and acquisition of funds for the enterprise.

In corporate finance, a company's capital structure is the total mix of financing methods it uses to raise funds. One method is debt financing, which includes bank loans and bond sales. Another method is equity financing - the sale of stock by a company to investors, the original shareholders of a share. Ownership of a share gives the shareholder certain contractual rights and powers, which typically include the right to receive declared dividends and to vote the proxy on important matters (e.g., board elections). The owners of both bonds and stock, may be institutional investors - financial institutions such as investment banks and pension funds or private individuals, called private investors or retail investors.

**Public finance**

Public finance describes finance as related to sovereign states and sub-national entities (states/provinces, counties, municipalities, etc.) and related public entities (e.g. school districts) or agencies. It is concerned with:

- Identification of required expenditure of a public sector entity
- Source(s) of that entity's revenue
- The budgeting process
Debt issuance (municipal bonds) for public works projects

Central banks, such as the Federal Reserve System banks in the United States and Bank of England in the United Kingdom, are strong players in public finance, acting as lenders of last resort as well as strong influences on monetary and credit conditions in the economy.

Capital

Capital, in the financial sense, is the money that gives the business the power to buy goods to be used in the production of other goods or the offering of a service. (The capital has two types of resources, Equity and Debt).

The deployment of capital is decided by the budget. This may include the objective of business, targets set, and results in financial terms, e.g., the target set for sale, resulting cost, growth, required investment to achieve the planned sales, and financing source for the investment.

A budget may be long term or short term. Long term budgets have a time horizon of 5–10 years giving a vision to the company; short term is an annual budget which is drawn to control and operate in that particular year.

Budgets will include proposed fixed asset requirements and how these expenditures will be financed. Capital budgets are often adjusted annually and should be part of a longer-term Capital Improvements Plan.

A cash budget is also required. The working capital requirements of a business are monitored at all times to ensure that there are sufficient funds available to meet short-term expenses.

The cash budget is basically a detailed plan that shows all expected sources and uses of cash. The cash budget has the following six main sections:

1. **Beginning Cash Balance** - contains the last period's closing cash balance.
2. **Cash collections** - includes all expected cash receipts (all sources of cash for the period considered, mainly sales)
3. **Cash disbursements** - lists all planned cash outflows for the period, excluding interest payments on short-term loans, which appear in the financing section. All expenses that do not affect cash flow are excluded from this list (e.g. depreciation, amortization, etc.)
4. **Cash excess or deficiency** - a function of the cash needs and cash available. Cash needs are determined by the total cash disbursements plus the minimum cash balance required by company policy. If total cash available is less than cash needs, a deficiency exists.

5. **Financing** - discloses the planned borrowings and repayments, including interest.

**Financial economics**

Financial economics is the branch of economics studying the interrelation of financial variables, such as prices, interest rates and shares, as opposed to those concerning the real economy. Financial economics concentrates on influences of real economic variables on financial ones, in contrast to pure finance. It centres on managing risk in the context of the financial markets, and the resultant economic and financial models. It essentially explores how rational investors would apply risk and return to the problem of an investment policy. Here, the twin assumptions of rationality and market efficiency lead to modern portfolio theory (the CAPM), and to the Black–Scholes theory for option valuation; it further studies phenomena and models where these assumptions do not hold, or are extended. "Financial economics", at least formally, also considers investment under "certainty" (Fisher separation theorem, "theory of investment value", Modigliani-Miller theorem) and hence also contributes to corporate finance theory. Financial econometrics is the branch of financial economics that uses econometric techniques to parameterize the relationships suggested.

Although closely related, the disciplines of economics and finance are distinctive. The “economy” is a social institution that organizes a society’s production, distribution, and consumption of goods and services,” all of which must be financed.

Economists make a number of abstract assumptions for purposes of their analyses and predictions. They generally regard financial markets that function for the financial system as an efficient mechanism (Efficient-market hypothesis). Instead, financial markets are subject to human error and emotion. New research discloses the mischaracterization of investment safety and measures of financial products and markets so complex that their effects, especially under conditions of uncertainty, are impossible to predict. The study of finance is subsumed under economics as financial economics, but the scope, speed, power relations and practices of the
financial system can uplift or cripple whole economies and the well-being of households, businesses and governing bodies within them—sometimes in a single day.

**Financial mathematics**

Financial mathematics is a field of applied mathematics, concerned with financial markets. The subject has a close relationship with the discipline of financial economics, which is concerned with much of the underlying theory. Generally, mathematical finance will derive, and extend, the mathematical or numerical models suggested by financial economics. In terms of practice, mathematical finance also overlaps heavily with the field of computational finance (also known as financial engineering). Arguably, these are largely synonymous, although the latter focuses on application, while the former focuses on modeling and derivation (*see: Quantitative analyst*). The field is largely focused on the modelling of derivatives, although other important subfields include insurance mathematics and quantitative portfolio problems. See Outline of finance: Mathematical tools; Outline of finance: Derivatives pricing.

**Experimental finance**

Experimental finance aims to establish different market settings and environments to observe experimentally and provide a lens through which science can analyze agents' behavior and the resulting characteristics of trading flows, information diffusion and aggregation, price setting mechanisms, and returns processes. Researchers in experimental finance can study to what extent existing financial economics theory makes valid predictions, and attempt to discover new principles on which such theory can be extended. Research may proceed by conducting trading simulations or by establishing and studying the behavior of people in artificial competitive market-like settings.

**Behavioral finance**

Behavioral Finance studies how the psychology of investors or managers affects financial decisions and markets. Behavioral finance has grown over the last few decades to become central to finance.
Behavioral finance includes such topics as:

1. Empirical studies that demonstrate significant deviations from classical theories.
2. Models of how psychology affects trading and prices
3. Forecasting based on these methods.
4. Studies of experimental asset markets and use of models to forecast experiments.

A strand of behavioral finance has been dubbed Quantitative Behavioral Finance, which uses mathematical and statistical methodology to understand behavioral biases in conjunction with valuation. Some of this endeavor has been led by Gunduz Caginalp (Professor of Mathematics and Editor of Journal of Behavioral Finance during 2001-2004) and collaborators including Vernon Smith (2002 Nobel Laureate in Economics), David Porter, Don Balenovich, Vladimira Ilieva, Ahmet Duran). Studies by Jeff Madura, Ray Sturm and others have demonstrated significant behavioral effects in stocks and exchange traded funds. Among other topics, quantitative behavioral finance studies behavioral effects together with the non-classical assumption of the finiteness of assets.

**Intangible asset finance**

Intangible asset finance is the area of finance that deals with intangible assets such as patents, trademarks, goodwill, reputation, etc.

There are several related professional qualifications, that can lead to the field:

- **Generalist Finance qualifications:**
  - Degrees: Masters degree in Finance (MSF), Master of Financial Economics, Master of Finance & Control (MFC), Master Financial Manager (MFM), Master of Financial Administration (MFA)
  - Certifications: Chartered Financial Analyst (CFA), Certified Treasury Professional (CTP), Certified Valuation Analyst (CVA), Certified International Investment Analyst (CIIA), Financial Risk Manager (FRM), Professional Risk Manager (PRM), Association of Corporate Treasurers (ACT), Certified Market
Analyst (CMA/FAD) Dual Designation, Corporate Finance Qualification (CF), Chartered Alternative Investment Analyst (CAIA), Chartered Investment Manager (CIM)

- **Quantitative Finance qualifications:** Master of Financial Engineering (MSFE), Master of Quantitative Finance (MQF), Master of Computational Finance (MCF), Master of Financial Mathematics (MFM), Certificate in Quantitative Finance (CQF).

- **Accountancy qualifications:**
  - Qualified accountant: Chartered Accountant (The Institute of Chartered Accountant of Pakistan - ICAP), Chartered Accountant (The Institute of Chartered Accountants of India - ICAI), Chartered Accountant (ACA - UK certification / CA - certification in Commonwealth countries), Chartered Certified Accountant (ACCA, UK certification), Certified Public Accountant (CPA, US certification), ACMA/FCMA (Associate/Fellow Chartered Management Accountant) from Chartered Institute of Management Accountant (CIMA), UK.
  - Non-statutory qualifications: Chartered Cost Accountant CCA Designation from AAFM

- **Business qualifications:** Master of Business Administration (MBA), Master of Management (MM), Master of Commerce (M.Comm), Master of Science in Management (MSM), Doctor of Business Administration (DBA)
A financial statement (or financial report) is a formal record of the financial activities of a business, person, or other entity.

Relevant financial information is presented in a structured manner and in a form easy to understand. They typically include basic financial statements, accompanied by a management discussion and analysis:

1. A balance sheet, also referred to as a statement of financial position, reports on a company's assets, liabilities, and ownership equity at a given point in time.

2. An income statement, also known as a statement of comprehensive income, statement of revenue & expense, P&L or profit and loss report, reports on a company's income, expenses, and profits over a period of time. A profit and loss statement provides information on the operation of the enterprise. These include sales and the various expenses incurred during the stated period.

3. A statement of cash flows reports on a company's cash flow activities, particularly its operating, investing and financing activities.

For large corporations, these statements may be complex and may include an extensive set of notes to the financial statements and management discussion and analysis. The notes typically describe each item on the balance sheet, income statement and cash flow statement in further detail. Notes to financial statements are considered an integral part of the financial statements.

**Purpose of financial statements by business entities**

"The objective of financial statements is to provide information about the financial position, performance and changes in financial position of an enterprise that is useful to a wide range of users in making economic decisions." Financial statements should be understandable, relevant, reliable and comparable. Reported assets, liabilities, equity, income and expenses are directly related to an organization's financial position."
Financial statements are intended to be understandable by readers who have "a reasonable knowledge of business and economic activities and accounting and who are willing to study the information diligently." Financial statements may be used by users for different purposes:

- Owners and managers require financial statements to make important business decisions that affect its continued operations. Financial analysis is then performed on these statements to provide management with a more detailed understanding of the figures. These statements are also used as part of management's annual report to the stockholders.

- Employees also need these reports in making collective bargaining agreements (CBA) with the management, in the case of labor unions or for individuals in discussing their compensation, promotion and rankings.

- Prospective investors make use of financial statements to assess the viability of investing in a business. Financial analyses are often used by investors and are prepared by professionals (financial analysts), thus providing them with the basis for making investment decisions.

- Financial institutions (banks and other lending companies) use them to decide whether to grant a company with fresh working capital or extend debt securities (such as a long-term bank loan or debentures) to finance expansion and other significant expenditures.

**Consolidated financial statements**

Main article: Consolidated financial statement

Consolidated financial statements are defined as "Financial statements of a group in which the assets, liabilities, equity, income, expenses and cash flows of the parent (company) and its subsidiaries are presented as those of a single economic entity", according to International Accounting Standard 27 "Consolidated and separate financial statements", and International Financial Reporting Standard 10 "Consolidated financial statements".

**Government financial statements**
The rules for the recording, measurement and presentation of government financial statements may be different from those required for business and even for non-profit organizations. They may use either of two accounting methods: accrual accounting, or cost accounting, or a combination of the two (OCBOA). A complete set of chart of accounts is also used that is substantially different from the chart of a profit-oriented business.

**Personal financial statements**

Personal financial statements may be required from persons applying for a personal loan or financial aid. Typically, a personal financial statement consists of a single form for reporting personally held assets and liabilities (debts), or personal sources of income and expenses, or both. The form to be filled out is determined by the organization supplying the loan or aid.

**Audit and legal implications**

Although laws differ from country to country, an audit of the financial statements of a public company is usually required for investment, financing, and tax purposes. These are usually performed by independent accountants or auditing firms. Results of the audit are summarized in an audit report that either provide an unqualified opinion on the financial statements or qualifications as to its fairness and accuracy. The audit opinion on the financial statements is usually included in the annual report.

There has been much legal debate over who an auditor is liable to. Since audit reports tend to be addressed to the current shareholders, it is commonly thought that they owe a legal duty of care to them. But this may not be the case as determined by common law precedent. In Canada, auditors are liable only to investors using a prospectus to buy shares in the primary market. In the United Kingdom, they have been held liable to potential investors when the auditor was aware of the potential investor and how they would use the information in the financial statements. Nowadays auditors tend to include in their report liability restricting language, discouraging anyone other than the addressees of their report from relying on it. Liability is an important issue: in the UK, for example, auditors have unlimited liability.
In the United States, especially in the post-Enron era there has been substantial concern about the accuracy of financial statements. Corporate officers (the chief executive officer (CEO) and chief financial officer (CFO)) are personally responsible for fair financial reporting allowing those reading the report to have a good sense of the organization.

**Standards and regulations**

Different countries have developed their own accounting principles over time, making international comparisons of companies difficult. To ensure uniformity and comparability between financial statements prepared by different companies, a set of guidelines and rules are used. Commonly referred to as Generally Accepted Accounting Principles (GAAP), these set of guidelines provide the basis in the preparation of financial statements, although many companies voluntarily disclose information beyond the scope of such requirements.

Recently there has been a push towards standardizing accounting rules made by the International Accounting Standards Board ("IASB"). IASB develops International Financial Reporting Standards that have been adopted by Australia, Canada and the European Union (for publicly quoted companies only), are under consideration in South Africa and other countries. The United States Financial Accounting Standards Board has made a commitment to converge the U.S. GAAP and IFRS over time.

**Inclusion in annual reports**

To entice new investors, public companies assemble their financial statements on fine paper with pleasing graphics and photos in an annual report to shareholders, attempting to capture the excitement and culture of the organization in a "marketing brochure" of sorts. Usually the company's chief executive will write a letter to shareholders, describing management's performance and the company's financial highlights.

In the United States, prior to the advent of the internet, the annual report was considered the most effective way for corporations to communicate with individual shareholders. Blue chip companies went to great expense to produce and mail out attractive annual reports to every shareholder. The annual report was often prepared in the style of a coffee table book.
Moving to electronic financial statements

Financial statements have been created on paper for hundreds of years. The growth of the Web has seen more and more financial statements created in an electronic form which is exchangeable over the Web. Common forms of electronic financial statements are PDF and HTML. These types of electronic financial statements have their drawbacks in that it still takes a human to read the information in order to reuse the information contained in a financial statement.

More recently a market driven global standard, XBRL (Extensible Business Reporting Language), which can be used for creating financial statements in a structured and computer readable format, has become more popular as a format for creating financial statements. Many regulators around the world such as the U.S. Securities and Exchange Commission have mandated XBRL for the submission of financial information.

The UN/CEFACT created, with respect to Generally Accepted Accounting Principles, (GAAP), internal or external financial reporting XML messages to be used between enterprises and their partners, such as private interested parties (e.g. bank) and public collecting bodies (e.g. taxation authorities). Many regulators use such messages to collect financial and economic information.

Organizations For Fund Raising

Fundraising is a significant way that non-profit organizations may obtain the money for their operations. These operations can involve a very broad array of concerns such as religious or philanthropic groups such as research organizations, public broadcasters, political campaigns and environmental issues.

Some examples of charitable organizations include student scholarship merit awards for athletic or academic achievement, humanitarian concerns, disaster relief, human rights, research, and other social issues.
**Professional fundraisers**

Many non-profit organizations take advantage of the services of professional fundraisers. These fundraisers may be paid for their services either through fees unrelated to the amounts of money to be raised, or by retaining a percentage of raised funds (percentage-based compensation). The latter approach is expressly forbidden under the Code of Ethics of the Association of Fundraising Professionals (AFP), a professional membership body. However, by far the most common practice of American non-profits is to employ a staff person whose main responsibility is fund raising. This person is paid a salary like any other employee, and is usually a part of the top management staff of the organization.

Some non-profit organizations nonetheless engage fundraisers who are paid a percentage of the funds they raise. In the United States, this ratio of funds retained to funds passed on to the non-profit is subject to reporting to a number of state's Attorneys General or Secretaries of state. This ratio is highly variable and subject to change over time and place, and it is a point of contention between a segment of the general public and the non-profit organizations.

The term "professional fundraiser" is in many cases a legislated term referring to third-party firms whose services are contracted for, whereas "fundraising professionals" or development officers are often individuals or staff at charitable non-profits. Although potentially confusing, the distinction is an important one to note.

Fundraising professionals, who have been employed with not-for-profit organizations as fundraisers or as fundraising consultants, for at least sixty (60) months, can become certified as a Certified Fund Raising Executive (CFRE). The CFRE credential is administered by CFRE International, an independent 501(c)6 whose sole mission is dedicated to setting standards in philanthropy through a valid and reliable certification process.

A specialty within the fundraising profession is grant professional. Grant professionals with at least three years experience and other requirements can become certified as Grant Professional Certified (GPC). The GPC credential is administered by Grant Professionals Certification Institute, whose mission is strengthening the nonprofit sector’s ability to pursue and maintain public and private sector funding by promoting competency and ethical practices within the field of grantsmanship. The certification process is designed to measure minimum knowledge and
skills related to all aspects of grant development and management, including but not limited to such areas as grant pre-production, grant construction, public sector funding, private sector funding, ethics and grant accountability.

**Religious organizations**

Equally important are fundraising efforts by virtually every recognized religious group throughout the world. These efforts are organized on a local, national, and global level. Sometimes, such funds will go exclusively toward assisting the basic needs of others, while money may at other times be used only for evangelism or proselytism. Usually, religious organizations mix the two, which can sometimes cause tension.

**Political campaigns**

US President Barack Obama's campaign team organised a record-breaking fundraising effort in 2008 based on grassroots fundraising. Fundraising also plays a major role in political campaigns. This fact, despite numerous campaign finance reform laws, continues to be a highly controversial topic in American politics. Political action committees (PACs) are the best-known organizations that back candidates and political parties, though others such as 527 groups also have an impact. Some advocacy organizations conduct fundraising for or against policy issues in an attempt to influence legislation.

**Public broadcasting**

While public broadcasters are completely government-funded in much of the world, there are many countries where some funds must come from donations from the public. In the United States less than 15% of local public broadcasting stations' funding comes from the federal government. Pledge drives commonly occur about three times each year, usually lasting one to two weeks each time. Viewership and listenership often declines significantly during funding periods, so special programming may be aired in order to keep regular viewers and listeners interested.
Taxation

Organizations in the United States established for charitable purposes are allowed to raise funds from many sources. They are given a specific designation by the Internal Revenue Service (IRS), commonly noted as 501(c)(3) organizations. Other nonprofits such as fraternal associations have different IRS designations, and may or may not be eligible to raise funds. Financial information on many nonprofits, including all nonprofits that file annual IRS 990 forms is available from GuideStar.

Types

Many non-profit organizations receive some annual funding from a financial endowment, which is a sum of money that is invested to generate an annual return. Although endowments may be created when a sizable gift is received from an individual or family, often as directed in a will upon the death of a family member, they more typically are the result of many gifts over time from a variety of sources.

Non-profit organizations also raise funds through competing for grant funding. Grants are offered by governmental units and private foundations/charitable trusts to non-profit organizations for the benefit of all parties to the transaction.

A capital campaign is when fundraising is conducted to raise major sums for a building or endowment, and generally keep such funds separate from operating funds. These campaigns encourage donors to give more than they would normally give and tap donors, especially corporations and foundations who would not otherwise give. A capital campaign normally begins with a private phase before launching a public appeal.

Charitable giving by corporations is estimated to be $15.29 billion in 2010. This consists of corporate grants as well as matching gift and volunteer grants. 65% of Fortune 500 companies offer employee matching gift programs and 40% offer volunteer grant programs. These are charitable giving programs setup by corporations in which the company matches donations made by employees to eligible nonprofit organizations or provides grants to eligible nonprofit organizations as way to recognize and promote employee volunteerism.

Special events are another method of raising funds. These range from formal dinners to benefit concerts to walkathons. Events are used to increase visibility and support for an organization as
well as raising funds. Events can feature activities for the group such as speakers, a dance, an outing or entertainment, to encourage group participation and giving. Events can also include fundraising methods such as a raffle or charity auction. Events often feature notable sponsors or honoree. Events often feature a charity "ad book" as a program guide for the event, but more importantly, as another fundraiser providing members, supporters and vendors to show their support of and to the group at the event by way of placing an ad-like page, 1/2 page, 1/4 page, stating or showing support. Events and their associated fundraisers can be a major source of a groups revenue, visibility and donor relations.

While fundraising often involves the donation of money as an out-right gift, money may also be generated by selling a product of some kind, also known as product fundraising. Girl Scouts of the USA are well known for selling cookies in order to generate funds. It is also common to see on-line impulse sales links to be accompanied by statements that a proportion of proceeds will be directed to a particular charitable foundation. Tax law may require differentiating between the cost of an item verses its gift value, such as a $100.00 per person dinner, for a $25.00 cost meal. Fundraising often involves recognition to the donor, such as naming rights or adding donors to an honor roll or other general recognition. Charity Ad Books are another form of donation for recognition, sponsorship or selling of ads often in an event related program or group directory.

When goods or professional services are donated to an organization rather than cash, this is called an in-kind gift.

A number of charities and non-profit organizations are increasingly using the internet as a means to raise funds; this practice is referred to as online fundraising. For example, theNSPCC operates a search engine which generates funds via Pay per click links, and Better The World operates tools allowing funds to be raised via members viewing ethical ads on a browser sidebar and/or blog widget. Save the Children's Dave Hartman wrote after the $1 Million Operation Sharecraft online campaign, "We may have reached our mark, but this is just the beginning of a new era of fundraising and using social media and digital technology to better the world."

Some of the most substantial fundraising efforts in the United States are conducted by colleges and universities. Commonly the fundraising, or "development" / "advancement," program, makes a distinction between annual fund appeals and major campaigns. Most institutions use professional development officers to conduct superior fundraising appeals for both the entire
institution or individual colleges and departments. Examples of this include athletics and libraries.

The donor base (often called a file) for higher education includes alumni, parents, friends, private foundations, and corporations. Gifts of appreciated property are important components of such efforts because the tax advantage they confer on the donor encourages larger gifts. The process of soliciting appreciated assets is called planned giving.

The classic development program at institutions of higher learning include prospect identification, prospect research and verification of the prospect's viability, cultivation, solicitation, and finally stewardship, the latter being the process of keeping donors informed about how past support has been used.

**Accountable fundraising**

Some non-profit organizations demonstrate greater accountability by showing donors the direct impact of their fundraising efforts. This accountability usually comes in the form of a vote, where the members select a specific program or charity that they would like their money to go to. A specific example of accountable fundraising is the organization Better The World which allows members to select the charity which receives the money they have raised; members can constantly keep track of the amount raised on the browser sidebar tool.

**Fundraiser events**

A fundraiser is an event or campaign whose primary purpose is to raise money for a cause, charity or non-profit organization. Fundraisers often benefit charitable, non-profit, religious, or non-governmental organizations, though there are also fundraisers that benefit for-profit companies and individuals.

One specific type of event is the "ad book" fundraiser, where those who wish to give funds to a fundraising group do so through the sponsorship or statement within a book of advertisements.

Online fundraising pages have become very popular for people taking part in activities such as marathon running. Those pages facilitate online payments in support of the charity event.

Popular charity fundraisers in major American cities include lavish black-tie gala benefit dinners that honor celebrities, philanthropists, and business leaders who help to fundraise for the event's goals through solicitations of their social and business connections.
**Relationship building**

Often called donor cultivation, relationship building is the foundation on which most fundraising takes place. Most development strategies divide donors into categories based on annual gifts. For instance, major donors are those that give at the highest level of the organization's fundraising scale and mid-level donors are in the middle.

More sophisticated strategies use tools to overlay demographic and other market segmentation data against their database of donors in order to more precisely customize communication and more effectively target resources. Research by Peter Maple in the UK shows that charities generally underinvest in good marketing research spending around a quarter of what an equivalent sized for profit company might spend.

Donor relations and stewardship professionals support fundraisers by recognizing and thanking donors in a fashion that will cultivate future giving to nonprofit organizations. The Association of Donor Relations Professionals (ADRP) is the first community of stewardship and donor relations professionals in the United States and Canada.

Recent research by Adrian Sargeant and the Association of Fundraising Professionals' Fundraising Effectiveness Project suggests the sector has a long way to go in improving the quality of donor relations. The sector generally loses 50–60% of its newly acquired donors between their first and second donations and one in three, year on year thereafter. The economics of regular or sustained giving are rather different, but even then organizations routinely lose 30% of their donors from one year to the next.
CHAPTER 3

International Financial Reporting Standards

International Financial Reporting Standards (IFRS) are designed as a common global language for business affairs so that company accounts are understandable and comparable across international boundaries. They are a consequence of growing international shareholding and trade and are particularly important for companies that have dealings in several countries. They are progressively replacing the many different national accounting standards. The rules to be followed by accountants to maintain books of accounts which is comparable, understandable, reliable and relevant as per the users internal or external.

IFRS began as an attempt to harmonise accounting across the European Union but the value of harmonisation quickly made the concept attractive around the world. They are sometimes still called by the original name of International Accounting Standards (IAS). IAS were issued between 1973 and 2001 by the Board of the International Accounting Standards Committee (IASC). On 1 April 2001, the new International Accounting Standards Board took over from the IASC the responsibility for setting International Accounting Standards. During its first meeting the new Board adopted existing IAS and Standing Interpretations Committee standards (SICs). The IASB has continued to develop standards calling the new standards International Financial Reporting Standards (IFRS).

Objective of financial statements

A financial statement should reflect a true and fair view of the business affairs of the organization. As statements are used by various constituents of the society / regulators, they need to reflect a true view of the financial position of the organization, and they are very helpful to check the financial position of the business for a specific period.

IFRS authorize three basic accounting models:

I. Current Cost Accounting, under Physical Capital Maintenance at all levels of inflation and deflation under the Historical Cost paradigm as well as the Capital Maintenance in Units of Constant Purchasing Power paradigm. (See the Conceptual Framework, Par. 4.59 (b).)

II. Financial Capital Maintenance in Nominal Monetary Units, i.e., globally implemented Historical cost accounting during low inflation and deflation only under the
Traditional Historical Cost paradigm. (See the original Framework (1989), Par 104 (a)) [now Conceptual Framework (2010), Par. 4.59 (a)]

III. Financial Capital Maintenance in Units of Constant Purchasing Power, – CMUCPP – in terms of a Daily Consumer Price Index or daily rate at all levels of inflation and deflation (see the original Framework (1989), Par 104 (a)) [now Conceptual Framework (2010), Par. 4.59 (a)] under the Capital Maintenance in Units of Constant Purchasing Power paradigm.

The following are the three underlying assumptions in IFRS:

- 1. **Going concern**: an entity will continue for the foreseeable future under the Historical Cost paradigm as well as under the Capital Maintenance in Units of Constant Purchasing Power paradigm. (See Conceptual Framework, Par. 4.1)

- 2. **Stable measuring unit assumption**: financial capital maintenance in nominal monetary units or traditional Historical cost accounting only under the traditional Historical Cost paradigm; i.e., accountants consider changes in the purchasing power of the functional currency up to but excluding 26% per annum for three years in a row (which would be 100% cumulative inflation over three years or hyperinflation as defined in IAS 29) as immaterial or not sufficiently important for them to choose Capital Maintenance in units of constant purchasing power in terms of a Daily Consumer Price Index or daily rate [Capital Maintenance in Units of Constant Purchasing Power] at all levels of inflation and deflation as authorized in IFRS in the original Framework (1989), Par 104 (a) [now Conceptual Framework (2010), Par. 4.59 (a)].

Accountants implementing the stable measuring unit assumption (traditional Historical Cost Accounting) during annual inflation of 25% for 3 years in a row would erode 100% of the real value of all constant real value non-monetary items not maintained constant under the Historical Cost paradigm.

- 3. **Units of constant purchasing power**: Capital Maintenance in Units of Constant Purchasing Power at all levels of inflation and deflation - including during hyperinflation as required in IAS 29 - in terms of a Daily Consumer Price Index or daily rate only under the Capital Maintenance in Units of Constant Purchasing Power paradigm; i.e. the total rejection of the stable measuring unit assumption at all levels of inflation and deflation. See The
Framework (1989), Paragraph 104 (a) [now Conceptual Framework (2010), Par. 4.59 (a)]. Capital Maintenance in Units of Constant Purchasing Power in terms of a Daily Consumer Price Index or daily rate of all constant real value non-monetary items in all entities that at least break even in real value at all levels of inflation and deflation - ceteris paribus - remedies for an indefinite period of time the erosion caused by Historical Cost Accounting of the real values of constant real value non-monetary items never maintained constant as a result of the implementation of the stable measuring unit assumption at all levels of inflation and deflation under HCA.

It is not inflation doing the eroding. Inflation and deflation have no effect on the real value of non-monetary items. It is the implementation of the stable measuring unit assumption, i.e., traditional HCA, which erodes the real value of constant real value non-monetary items never maintained constant in a double entry basic accounting model.

Constant real value non-monetary items are non-monetary items with constant real values over time whose values within an entity are not generally determined in a market on a daily basis.

Examples include borrowing costs, comprehensive income, interest paid, interest received, bank charges, royalties, fees, short term employee benefits, pensions, salaries, wages, rentals, all other income statement items, issued share capital, share premium accounts, share discount accounts, retained earnings, retained losses, capital reserves, revaluation surpluses, all accounted profits and losses, all other items in shareholders’ equity, trade debtors, trade creditors, dividends payable, dividends receivable, deferred tax assets, deferred tax liabilities, all taxes payable, all taxes receivable, all other non-monetary payables, all other non-monetary receivables, provisions, etc.

All constant real value non-monetary items are always and everywhere measured in units of constant purchasing power at all levels of inflation (including during hyperinflation) and deflation under CMUCPP in terms of a Daily CPI or daily rate under the Capital Maintenance in Units of Constant Purchasing Power paradigm. The constant purchasing power gain or loss is calculated when current period constant items are not measured in units of constant purchasing power.

Monetary items constitute the money supply.
Examples of units of money held are bank notes and coins of the fiat currency created within an economy by means of fractional reserve banking. Examples of items with an underlying monetary nature which are substitutes for money held include the capital amount of: bank loans, bank savings, credit card loans, car loans, home loans, student loans, consumer loans, commercial and government bonds, Treasury Bills, all capital and money market investments, notes payable, notes receivable, etc. when these items are not in the form of money held.

Historic and current period monetary items are required to be inflation-adjusted on a daily basis in terms of a daily index or rate under the Capital Maintenance in Units of Constant Purchasing Power paradigm. The net monetary loss or gain as defined in IAS 29 is required to be calculated and accounted when they are not inflation-adjusted on a daily basis during the current financial period. Inflation-adjusting the total money supply (excluding bank notes and coins of the fiat functional currency created by means of fractional reserve banking within an economy) in terms of a daily index or rate under complete co-ordination would result in zero cost of inflation (not zero inflation) in only the entire money supply (as qualified) in an economy.

Variable real value non-monetary items are non-monetary items with variable real values over time. Examples include quoted and unquoted shares, property, plant, equipment, inventory, intellectual property, goodwill, foreign exchange, finished goods, raw material, etc.

Current period variable real value non-monetary items are required to be measured on a daily basis in terms of IFRS excluding the stable measuring unit assumption under the Capital Maintenance in Units of Constant Purchasing Power paradigm. When they are not valued on a daily basis, then they as well as historic variable real value non-monetary items are required to be updated daily in terms of a daily rate as indicated above. Current period impairment losses in variable real value non-monetary items are required to be treated in terms of IFRS. They are constant real value non-monetary items once they are accounted. All accounted losses and profits are constant real value non-monetary items.

Under the Capital Maintenance in Units of Constant Purchasing Power paradigm daily measurement is required of all items in terms of

(a) a Daily Consumer Price Index or monetized daily indexed unit of account, e.g. the Unidad de Fomento in Chile, during low inflation, high inflation and deflation and
(b) in terms of a relatively stable foreign currency parallel rate (normally the US Dollar daily parallel rate) or a Brazilian-style Unidade Real de Valor daily index during hyperinflation. Hyperinflation is defined in IAS 29 as cumulative inflation equal to or approaching 100 per cent over three years, i.e. 26 per cent annual inflation for three years in a row.

Qualitative characteristics of financial statements

Qualitative characteristics of financial statements include:

- Relevance (Materiality)
- Faithful representation

Enhancing qualitative characteristics include:

- Comparability
- Verifiability
- Timeliness
- Understandability

Elements of financial statements (IAS 1 article 10)

- The financial position of an enterprise is primarily provided in the **Statement of Financial Position**. The elements include:
  - **Asset**: An asset is a resource controlled by the enterprise as a result of past events from which future economic benefits are expected to flow to the enterprise.
  - **Liability**: A liability is a present obligation of the enterprise arising from the past events, the settlement of which is expected to result in an outflow from the enterprise' resources, i.e., assets.
  - **Equity**: Equity is the residual interest in the assets of the enterprise after deducting all the liabilities under the Historical Cost Accounting model. Equity is also known as owner's equity. Under the units of constant purchasing power model equity is the constant real value of shareholders´ equity.
The financial performance of an enterprise is primarily provided in the **Statement of Comprehensive Income** (income statement or profit and loss account). The elements of an income statement or the elements that measure the financial performance are as follows:

- **Revenues**: increases in economic benefit during an accounting period in the form of inflows or enhancements of assets, or decrease of liabilities that result in increases in equity. However, it does not include the contributions made by the equity participants, i.e., proprietor, partners and shareholders.

- **Expenses**: decreases in economic benefits during an accounting period in the form of outflows, or depletions of assets or incurrences of liabilities that result in decreases in equity.

Revenues and expenses are measured in nominal monetary units under the Historical Cost Accounting model and in units of constant purchasing power (inflation-adjusted) under the Units of Constant Purchasing Power model.

- **Statement of Changes in Equity**
- **Statement of Cash Flows**
- **Notes to the Financial Statements**

**Recognition of elements of financial statements**

An item is recognized in the financial statements when:

- it is probable future economic benefit will flow to or from an entity.
- the resource can be reliably measured – otherwise the stable measuring unit assumption is applied under the Historical Cost Accounting model: i.e. it is assumed that the monetary unit of account (the functional currency) is perfectly stable (zero inflation or deflation); it is simply assumed that there is no inflation or deflation ever, and items are stated at their original nominal Historical Cost from any prior date: 1 month, 1 year, 10 or 100 or 200 or more years before; i.e. the stable measuring unit assumption is applied to items such as issued share capital, retained earnings, capital reserves, all other items in shareholders´ equity, all items in the Statement of Comprehensive Income (except salaries, wages, rentals, etc., which are inflation-adjusted annually), etc.
Under the Capital Maintenance in Units of Constant Purchasing Power (CMUCPP) model, all constant real value non-monetary items are measured in units of constant purchasing power in terms of a daily index at all levels of inflation and deflation; i.e. all items in the Statement of Comprehensive Income, all items in shareholders’ equity, Accounts Receivables, Accounts Payables, all non-monetary payables, all non-monetary receivables, provisions, etc.

Measurement of the elements of financial statements

Par. 99. Measurement is the process of determining the monetary amounts at which the elements of the financial statements are to be recognized and carried in the balance sheet and income statement. This involves the selection of the particular basis of measurement.

Par. 100. A number of different measurement bases are employed to different degrees and in varying combinations in financial statements. They include the following:

(a) Historical cost. Assets are recorded at the amount of cash or cash equivalents paid or the fair value of the consideration given to acquire them at the time of their acquisition. Liabilities are recorded at the amount of proceeds received in exchange for the obligation, or in some circumstances (for example, income taxes), at the amounts of cash or cash equivalents expected to be paid to satisfy the liability in the normal course of business.

(b) Current cost. Assets are carried at the amount of cash or cash equivalents that would have to be paid if the same or an equivalent asset was acquired currently. Liabilities are carried at the undiscounted amount of cash or cash equivalents that would be required to settle the obligation currently.

(c) Realisable (settlement) value. Assets are carried at the amount of cash or cash equivalents that could currently be obtained by selling the asset in an orderly disposal. Assets are carried at the present discounted value of the future net cash inflows that the item is expected to generate in the normal course of business. Liabilities are carried at the present discounted value of the future net cash outflows that are expected to be required to settle the liabilities in the normal course of business.

Par. 101. The measurement basis most commonly adopted by entities in preparing their financial statements is historical cost. This is usually combined with other measurement
bases. For example, inventories are usually carried at the lower of cost and net realisable value, marketable securities may be carried at market value and pension liabilities are carried at their present value. Furthermore, some entities use the current cost basis as a response to the inability of the historical cost accounting model to deal with the effects of changing prices of non-monetary assets.

**Concepts of capita**

Par. 102. A financial concept of capital is adopted by most entities in preparing their financial statements. Under a financial concept of capital, such as invested money or invested purchasing power, capital is synonymous with the net assets or equity of the entity. Under a physical concept of capital, such as operating capability, capital is regarded as the productive capacity of the entity based on, for example, units of output per day.

Par. 103. The selection of the appropriate concept of capital by an entity should be based on the needs of the users of its financial statements. Thus, a financial concept of capital should be adopted if the users of financial statements are primarily concerned with the maintenance of nominal invested capital or the purchasing power of invested capital. If, however, the main concern of users is with the operating capability of the entity, a physical concept of capital should be used. The concept chosen indicates the goal to be attained in determining profit, even though there may be some measurement difficulties in making the concept operational.

**Concepts of capital maintenance and the determination of profit**

Par. 104. The concepts of capital in paragraph 102 give rise to the following two concepts of capital maintenance:

(a) Financial capital maintenance. Under this concept a profit is earned only if the financial (or money) amount of the net assets at the end of the period exceeds the financial (or money) amount of net assets at the beginning of the period, after excluding any distributions to, and contributions from, owners during the period. Financial capital maintenance can be measured in either nominal monetary units or units of constant purchasing power.

(b) Physical capital maintenance. Under this concept a profit is earned only if the physical productive capacity (or operating capability) of the entity (or the resources or funds needed
to achieve that capacity) at the end of the period exceeds the physical productive capacity at the beginning of the period, after excluding any distributions to, and contributions from, owners during the period.

The concepts of capital in paragraph 102 give rise to the following three concepts of capital during low inflation and deflation:

- (A) Physical capital. See paragraph 102&103
- (B) Nominal financial capital. See paragraph 104.
- (C) Constant item purchasing power financial capital. See paragraph 104.

The concepts of capital in paragraph 102 give rise to the following three concepts of capital maintenance during low inflation and deflation:

- (1) **Physical capital maintenance**: optional during low inflation and deflation. Current Cost Accounting model prescribed by IFRS. See Par 106.
- (2) **Financial capital maintenance in nominal monetary units** (Historical cost accounting): authorized by IFRS but not prescribed—optional during low inflation and deflation. See Par 104 (a) Historical cost accounting. Financial capital maintenance in nominal monetary units per se during inflation and deflation is a fallacy: it is impossible to maintain the real value of financial capital constant with measurement in nominal monetary units per se during inflation and deflation.
- (3) **Financial capital maintenance in units of constant purchasing power** (Capital Maintenance in Units of Constant Purchasing Power): authorized by IFRS but not prescribed—optional during low inflation and deflation. See Par 104(a). Capital Maintenance in Units of Constant Purchasing Power is prescribed during hyperinflation in IAS 29: i.e. the restatement of Historical Cost or Current Cost period-end financial statements in terms of the period-end monthly published Consumer Price Index. Only financial capital maintenance in units of constant purchasing power (Capital Maintenance in Units of Constant Purchasing Power) in terms of a daily index per se can automatically maintain the real value of financial capital constant at all levels of inflation and deflation in all entities that at least break even in real value—ceteris paribus—for an indefinite period of time. This would happen whether these entities own revaluable fixed
assets or not and without the requirement of more capital or additional retained profits to simply maintain the existing constant real value of existing shareholders’ equity constant. Financial capital maintenance in units of constant purchasing power requires the calculation and accounting of net monetary losses and gains from holding monetary items during low inflation and deflation. The calculation and accounting of net monetary losses and gains during low inflation and deflation have thus been authorized in IFRS since 1989.

Par. 105. The concept of capital maintenance is concerned with how an entity defines the capital that it seeks to maintain. It provides the linkage between the concepts of capital and the concepts of profit because it provides the point of reference by which profit is measured; it is a prerequisite for distinguishing between an entity's return on capital and its return of capital; only inflows of assets in excess of amounts needed to maintain capital may be regarded as profit and therefore as a return on capital. Hence, profit is the residual amount that remains after expenses (including capital maintenance adjustments, where appropriate) have been deducted from income. If expenses exceed income the residual amount is a loss.

Par. 106. The physical capital maintenance concept requires the adoption of the current cost basis of measurement. The financial capital maintenance concept, however, does not require the use of a particular basis of measurement. Selection of the basis under this concept is dependent on the type of financial capital that the entity is seeking to maintain.

Par. 107. The principal difference between the two concepts of capital maintenance is the treatment of the effects of changes in the prices of assets and liabilities of the entity. In general terms, an entity has maintained its capital if it has as much capital at the end of the period as it had at the beginning of the period. Any amount over and above that required to maintain the capital at the beginning of the period is profit.

Par. 108. Under the concept of financial capital maintenance where capital is defined in terms of nominal monetary units, profit represents the increase in nominal money capital over the period. Thus, increases in the prices of assets held over the period, conventionally referred to as holding gains, are, conceptually, profits. They may not be recognised as such, however, until the assets are disposed of in an exchange transaction. When the concept of financial capital maintenance is defined in terms of constant purchasing power units, profit
represents the increase in invested purchasing power over the period. Thus, only that part of the increase in the prices of assets that exceeds the increase in the general level of prices is regarded as profit. The rest of the increase is treated as a capital maintenance adjustment and, hence, as part of equity.

Par. 109. Under the concept of physical capital maintenance when capital is defined in terms of the physical productive capacity, profit represents the increase in that capital over the period. All price changes affecting the assets and liabilities of the entity are viewed as changes in the measurement of the physical productive capacity of the entity; hence, they are treated as capital maintenance adjustments that are part of equity and not as profit.

Par. 110. The selection of the measurement bases and concept of capital maintenance will determine the accounting model used in the preparation of the financial statements. Different accounting models exhibit different degrees of relevance and reliability and, as in other areas, management must seek a balance between relevance and reliability. This Framework is applicable to a range of accounting models and provides guidance on preparing and presenting the financial statements constructed under the chosen model. At the present time, it is not the intention of the Board of IASC to prescribe a particular model other than in exceptional circumstances, such as for those entities reporting in the currency of a hyperinflationary economy. This intention will, however, be reviewed in the light of world developments.

Requirements of IFRS

See Requirements of IFRS. IFRS financial statements consist of (IAS1.8)

- a Statement of Financial Position
- a Statement of Comprehensive Income separate statements comprising an Income Statement and separately a Statement of Comprehensive Income, which reconciles Profit or Loss on the Income statement to total comprehensive income
- a Statement of Changes in Equity (SOCE)
- a Cash Flow Statement or Statement of Cash Flows
- notes, including a summary of the significant accounting policies
Comparative information is required for the prior reporting period (IAS 1.36). An entity preparing IFRS accounts for the first time must apply IFRS in full for the current and comparative period although there are transitional exemptions (IFRS1.7).

On 6 September 2007, the IASB issued a revised IAS 1 Presentation of Financial Statements. The main changes from the previous version are to require that an entity must:

- present all non-owner changes in equity (that is, 'comprehensive income') either in one Statement of comprehensive income or in two statements (a separate income statement and a statement of comprehensive income). Components of comprehensive income may not be presented in the Statement of changes in equity.
- present a statement of financial position (balance sheet) as at the beginning of the earliest comparative period in a complete set of financial statements when the entity applies the new standard.
- present a statement of cash flow.
- make necessary disclosure by the way of a note.

The revised IAS 1 is effective for annual periods beginning on or after 1 January 2009. Early adoption is permitted.

Adoption of IFRS

IFRS is used in many parts of the world, including the European Union, India, Hong Kong, Australia, Malaysia, Pakistan, GCC countries, Russia, Chile, South Africa, Singapore and Turkey. As of August 2008, more than 113 countries around the world, including all of Europe, currently require or permit IFRS reporting and 85 require IFRS reporting for all domestic, listed companies, according to the U.S. Securities and Exchange Commission.

It is generally expected that IFRS adoption worldwide will be beneficial to investors and other users of financial statements, by reducing the costs of comparing alternative investments and increasing the quality of information. Companies are also expected to benefit, as investors will be more willing to provide financing. Companies that have high levels of international activities are among the group that would benefit from a switch to IFRS. Companies that are involved in foreign activities and investing benefit from the switch
due to the increased comparability of a set accounting standard. However, Ray J. Ball has expressed some skepticism of the overall cost of the international standard; he argues that the enforcement of the standards could be lax, and the regional differences in accounting could become obscured behind a label. He also expressed concerns about the fair value emphasis of IFRS and the influence of accountants from non-common-law regions, where losses have been recognized in a less timely manner.

For a current overview see PwC's map of countries that apply IFRS.

**Australia**

The Australian Accounting Standards Board (AASB) has issued 'Australian equivalents to IFRS' (A-IFRS), numbering IFRS standards as AASB 1–8 and IAS standards as AASB 101–141. Australian equivalents to SIC and IFRIC Interpretations have also been issued, along with a number of 'domestic' standards and interpretations. These pronouncements replaced previous Australian generally accepted accounting principles with effect from annual reporting periods beginning on or after 1 January 2005 (i.e. 30 June 2006 was the first report prepared under IFRS-equivalent standards for June year ends). To this end, Australia, along with Europe and a few other countries, was one of the initial adopters of IFRS for domestic purposes (in the developed world). It must be acknowledged, however, that IFRS and primarily IAS have been part and parcel of accounting standard package in the developing world for many years since the relevant accounting bodies were more open to adoption of international standards for many reasons including that of capability.

The AASB has made certain amendments to the IASB pronouncements in making A-IFRS, however these generally have the effect of eliminating an option under IFRS, introducing additional disclosures or implementing requirements for not-for-profit entities, rather than departing from IFRS for Australian entities. Accordingly, for-profit entities that prepare financial statements in accordance with A-IFRS are able to make an unreserved statement of compliance with IFRS.

The AASB continues to mirror changes made by the IASB as local pronouncements. In addition, over recent years, the AASB has issued so-called 'Amending Standards' to reverse some of the initial changes made to the IFRS text for local terminology differences, to reinstate options and eliminate some Australian-specific disclosure. There are some calls for
Australia to simply adopt IFRS without 'Australianising' them and this has resulted in the AASB itself looking at alternative ways of adopting IFRS in Australia

**Canada**

The use of IFRS became a requirement for Canadian publicly accountable profit-oriented enterprises for financial periods beginning on or after 1 January 2011. This includes public companies and other "profit-oriented enterprises that are responsible to large or diverse groups of shareholders."

**European Union**

All listed EU companies have been required to use IFRS since 2005.

In order to be approved for use in the EU, standards must be endorsed by the Accounting Regulatory Committee (ARC), which includes representatives of member state governments and is advised by a group of accounting experts known as the European Financial Reporting Advisory Group. As a result IFRS as applied in the EU may differ from that used elsewhere.

Parts of the standard IAS 39: Financial Instruments: Recognition and Measurement were not originally approved by the ARC. IAS 39 was subsequently amended, removing the option to record financial liabilities at fair value, and the ARC approved the amended version. The IASB is working with the EU to find an acceptable way to remove a remaining anomaly in respect of hedge accounting. The World Bank Centre for Financial Reporting Reform is working with countries in the ECA region to facilitate the adoption of IFRS and IFRS for SMEs.

**India**

The (ICAI) has announced that IFRS will be mandatory in India for financial statements for the periods beginning on or after 1 April 2012, but this plan has been failed and IFRS/IND-AS (Coverged IFRS) are still not applicable. There was a roadmap as given below but still Indian companies are following old Indian GAAP. There is no clear new date of adoption of IFRS.

Reserve Bank of India has stated that financial statements of banks need to be IFRS-compliant for periods beginning on or after 1 April 2011.
The ICAI has also stated that IFRS will be applied to companies above INR 1000 crore (INR 10 billion) from April 2011. Phase wise applicability details for different companies in India:

Phase 1: Opening balance sheet as at 1 April 2011*
- i. Companies which are part of NSE Index – Nifty 50
- ii. Companies which are part of BSE Sensex – BSE 30

a. Companies whose shares or other securities are listed on a stock exchange outside India
b. Companies, whether listed or not, having net worth of more than INR 1000 crore (INR 10 billion)

Phase 2: Opening balance sheet as at 1 April 2012*

Companies not covered in phase 1 and having net worth exceeding INR 500 crore (INR 5 billion)

Phase 3: Opening balance sheet as at 1 April 2014*

Listed companies not covered in the earlier phases * If the financial year of a company commences at a date other than 1 April, then it shall prepare its opening balance sheet at the commencement of immediately following financial year.

On 22 January 2010, the Ministry of Corporate Affairs issued the road map for transition to IFRS. It is clear that India has deferred transition to IFRS by a year. In the first phase, companies included in Nifty 50 or BSE Sensex, and companies whose securities are listed on stock exchanges outside India and all other companies having net worth of INR 10 billion will prepare and present financial statements using Indian Accounting Standards converged with IFRS. According to the press note issued by the government, those companies will convert their first balance sheet as at 1 April 2011, applying accounting standards convergent with IFRS if the accounting year ends on 31 March. This implies that the transition date will be 1 April 2011. According to the earlier plan, the transition date was fixed at 1 April 2010.

The press note does not clarify whether the full set of financial statements for the year 2011–12 will be prepared by applying accounting standards convergent with IFRS. The deferment of the transition may make companies happy, but it will undermine India's position. Presumably, lack of preparedness of Indian companies has led to the decision to defer the adoption of IFRS for a year. This is unfortunate that India, which boasts for its IT and
accounting skills, could not prepare itself for the transition to IFRS over last four years. But that might be the ground reality. Transition in phases Companies, whether listed or not, having net worth of more than INR 5 billion will convert their opening balance sheet as at 1 April 2013. Listed companies having net worth of INR 5 billion or less will convert their opening balance sheet as at 1 April 2014. Un-listed companies having net worth of Rs5 billion or less will continue to apply existing accounting standards, which might be modified from time to time. Transition to IFRS in phases is a smart move. The transition cost for smaller companies will be much lower because large companies will bear the initial cost of learning and smaller companies will not be required to reinvent the wheel. However, this will happen only if a significant number of large companies engage Indian accounting firms to provide them support in their transition to IFRS. If, most large companies, which will comply with Indian accounting standards convergent with IFRS in the first phase, choose one of the international firms, Indian accounting firms and smaller companies will not benefit from the learning in the first phase of the transition to IFRS. It is likely that international firms will protect their learning to retain their competitive advantage. Therefore, it is for the benefit of the country that each company makes judicious choice of the accounting firm as its partner without limiting its choice to international accounting firms. Public sector companies should take the lead and the Institute of Chartered Accountants of India (ICAI) should develop a clear strategy to diffuse the learning. Size of companies the government has decided to measure the size of companies in terms of net worth. This is not the ideal unit to measure the size of a company. Net worth in the balance sheet is determined by accounting principles and methods. Therefore, it does not include the value of intangible assets. Moreover, as most assets and liabilities are measured at historical cost, the net worth does not reflect the current value of those assets and liabilities. Market capitalisation is a better measure of the size of a company. But it is difficult to estimate market capitalisation or fundamental value of unlisted companies. This might be the reason that the government has decided to use 'net worth' to measure size of companies. Some companies, which are large in terms of fundamental value or which intend to attract foreign capital, might prefer to use Indian accounting standards convergent with IFRS earlier than required under the road map presented by the government. The government should provide that choice.
Japan

The minister for Financial Services in Japan announced in late June 2011 that mandatory application of the IFRS should not take place from fiscal year ending March 2015; five to seven years should be required for preparation if mandatory application is decided; and to permit the use of U.S. GAAP beyond the fiscal year ending 31 March 2016.

Montenegro

Montenegro gained independence from Serbia in 2006. Its accounting standard setter is the Institute of Accountants and Auditors of Montenegro (IAAM). In 2005, IAAM adopted a revised version of the 2002 “Law on Accounting and Auditing” which authorized the use of IFRS for all entities. IFRS is currently required for all consolidated and standalone financial statements, however, enforcement is not effective except in the banking sector. Financial statements for banks in Montenegro are, generally, of high quality and can be compared to those of the European Union. Foreign companies listed on Montenegro's two stock exchanges (Montenegro Stock Exchange and NEX Stock Exchange) are also required to apply IFRS in their financial statements. Montenegro does not have a national GAAP. Currently, no Montenegrin translation of IFRS exists, and because of this Montenegro applies the Serbian translation from 2010. IFRS for SMEs is not currently applied in Montenegro.

Pakistan

All listed companies must follow all issued IAS/IFRS except the following: IAS 39 and IAS 42: Implementation of these standards has been held in abeyance by State Bank of Pakistan for Banks and DFIs IFRS-1: Effective for the annual periods beginning on or after 1 January 2004. This IFRS is being considered for adoption for all companies other than banks and DFIs. IFRS-9: Under consideration of the relevant Committee of the Institutes (ICAP & ICMAP). This IFRS will be effective for the annual periods beginning on or after 1 January 2013.

Russia

The government of Russia has been implementing a program to harmonize its national accounting standards with IFRS since 1998. Since then twenty new accounting standards
were issued by the Ministry of Finance of the Russian Federation aiming to align accounting practices with IFRS. Despite these efforts essential differences between Russian accounting standards and IFRS remain. Since 2004 all commercial banks have been obliged to prepare financial statements in accordance with both Russian accounting standards and IFRS. Full transition to IFRS is delayed but starting 2012 new modifications making Russian GAAP converging to IFRS have been made. They notably include the booking of reserves for bad debts and contingent liabilities and the devaluation of inventory and financial assets.

Still, several differences between the two sets of account still remain. Major reasons for deviation between Russian GAAP and IFRS / US-GAAP (e.g. when the Russian affiliate of a larger group need to be consolidated to the mother company) are the following:

1) Booking of payables in the General Ledger according to national accounting standards can only be made upon receipt of the actual acceptance protocol (good's receipt). Indeed in Russia, opposely to IFRS and US-GAAP, the invoice (outgoing or incoming) is not an official tax or accounting document and does not trigger any booking. There is also no provision to book in the General Ledger any expense for goods and services that according to a contract are effectively received but for whom documents are still not exchanged.

2) There is no possibility under Russian GAAP to recognise the good-will as an intangible asset in the balance sheet of a company. This has a major consequence when a company is sold. Indeed, if a company (or part of it) is sold at a higher value than its book value (i.e. to account for the good-will value), the selling party need to pay tax at the relevant profit tax rate (20% in 2013) on the difference in value between selling and accounting value and the buyer has no possibility to amortize the cost and deduct it from present and future revenues.

3) There is no equivalent of IAS 37 in the Russian GAAP. Loans and monetary securities are not discounted, so the present value of such financial assets is not discounted for the relevant interest rates at the different maturities of the loans.

Singapore

In Singapore the Accounting Standards Committee (ASC) is in charge of standard setting. Singapore closely models its Financial Reporting Standards (FRS) according to the IFRS,
with appropriate changes made to suit the Singapore context. Before a standard is enacted, consultations with the IASB are made to ensure consistency of core principles.

**South Africa**

All companies listed on the Johannesburg Stock Exchange have been required to comply with the requirements of International Financial Reporting Standards since 1 January 2005. The IFRS for SMEs may be applied by 'limited interest companies', as defined in the South African Corporate Laws Amendment Act of 2006 (that is, they are not 'widely held'), if they do not have public accountability (that is, not listed and not a financial institution). Alternatively, the company may choose to apply full South African Statements of GAAP or IFRS.

South African Statements of GAAP are entirely consistent with IFRS, although there may be a delay between issuance of an IFRS and the equivalent SA Statement of GAAP (can affect voluntary early adoption).

**Taiwan**

**Adoption scope and timetable**

(1) Phase I companies: listed companies and financial institutions supervised by the Financial Supervisory Commission (FSC), except for credit cooperatives, credit card companies and insurance intermediaries:

A. They will be required to prepare financial statements in accordance with Taiwan-IFRS starting from 1 January 2013.

B. Early optional adoption: Firms that have already issued securities overseas, or have registered an overseas securities issuance with the FSC, or have a market capitalization of greater than NT$10 billion, will be permitted to prepare additional consolidated financial statements in accordance with Taiwan-IFRS starting from 1 January 2012. If a company without subsidiaries is not required to prepare consolidated financial statements, it will be permitted to prepare additional individual financial statements on the above conditions.

(2) Phase II companies: unlisted public companies, credit cooperatives and credit card companies:
A. They will be required to prepare financial statements in accordance with Taiwan-IFRS starting from 1 January 2019

B. They will be permitted to apply Taiwan-IFRS starting from 1 January 2013.

(3) Pre-disclosure about the IFRS adoption plan, and the impact of adoption

To prepare properly for IFRS adoption, domestic companies should propose an IFRS adoption plan and establish a specific taskforce. They should also disclose the related information from 2 years prior to adoption, as follows:

A. Phase I companies:

(A) They will be required to disclose the adoption plan, and the impact of adoption, in 2011 annual financial statements, and in 2012 interim and annual financial statements.

(B) Early optional adoption:

a. Companies adopting IFRS early will be required to disclose the adoption plan, and the impact of adoption, in 2010 annual financial statements, and in 2011 interim and annual financial statements.

b. If a company opts for early adoption of Taiwan-IFRS after 1 January 2011, it will be required to disclose the adoption plan, and the impact of adoption, in 2011 interim and annual financial statements commencing on the decision date.

B. Phase II companies will be required to disclose the related information from 2 years prior to adoption, as stated above.
CHAPTER 4

Financial Reporting & Single Audit

F9 is a financial reporting software application that dynamically links general ledger data to Microsoft Excel through the use of financial cell-based formulas, wizards, and analysis tools to create spreadsheet reports that can be calculated, filtered, and drilled upon. The F9 software is developed, marketed, and support by an organization also called F9, a division of Infor Global Solutions (Canada) Ltd. which is headquartered in Vancouver, British Columbia.

Origins

F9 - The Financial Reporter was originally developed by Synex Systems Corporation, a subsidiary of Synex International (Symbol SXI, TSX) and first released in 1988 for Accpac a Lotus 1-2-3 Add-in for DOS and subsequently F9 was developed for the Microsoft Excel Spreadsheet Platform. In 2002, Synex Systems was acquired by privately owned Lasata Software of Perth, Australia. In 2005, Lasata was acquired by UK based Systems Union. In 2007, Systems Union was acquired by privately held Infor Global Solutions, a U.S. company that specializes in enterprise software.

What was Synex Systems Corporation now operates as an independent business unit (IBU) within Infor Global Solutions called F9 and continues to develop and partner with new and existing ERP and Accounting Software solutions. The latest product release (December 2008) is F9 Version 5, includes business intelligence reporting and an optional web reporting module, marketed as F9 Connect.

Overview

F9 was developed to allow a non-technical user, typically an accountant, to create a dynamic, customized general ledger financial report using a spreadsheet that is 'hot-linked' to an accounting system's general ledger. By removing the previously required step of exporting data from the accounting application and then importing data into the spreadsheet or retyping all of the numbers using data entry a great deal of time and effort is saved. Also, if the data in the accounting system changed the spreadsheet could be updated simply by pressing the 'F9' function key (in both 1-2-3 and Excel).
F9 software consists of three modules. The first is the user interface which is an addin installed into the spreadsheet. This part processes the F9 formulas and passes the data to the parser. The second module is the parser which is a program running independent of the spreadsheet and evaluates the data requested (query) by the function and either rejects it as invalid and returns an error message or processes the query into a format used by the accounting application interface (AAI). The AAI is a DLL that is programmed as a specific interface for the target accounting application.

This three layer design (basically a variation of the standard Model–view–controller architecture) allows F9 to support different spreadsheets with the same non-addin components and access any number of different accounting applications simultaneously. All that is required is that the DLL built for the target accounting applications is available for the parser program to access and the query specifying the accounting system requested. This accounting system definition parameter is optional. If there is only one accounting interface available F9 knows by this through a table look-up and scan of available DLL modules.

Since its introduction F9 has become to be considered as one of the accounting industry standard reporting tools.

Significance

F9 has become a well known tool for adhoc accounting reporting being available for many of the small and medium enterprise accounting systems in the world and provides basicOLAP and Information integration capabilities through its Excel interface and adds natural language query capacity not commonly available when added to F9 in 1990.

As of 2012 F9 is used by over 30,000 financial accounting professionals in more than 20 countries worldwide and was named one of Accounting Today's "Top 100 Software Products" for 2001.

Products

**Original Version**

Originally entitled: 'F9 - The Financial Reporter', F9 was released in mid-1989 as a Lotus 1-2-3 for DOS addin that allowed dynamic access to the Accpac General Ledger software data. The first interface used the same syntax as Accpac for specifying the reporting period. This was soon
replaced by a simpler to understand and more flexible generic natural language interface that used a temporal trinary (three part) phrase parsing syntax composed of a modifier, a period specifier, and a temporal index. For example: "starting balance last quarter" is broken down to 'starting balance' (modifier) + 'last' (temporal index) + 'quarter' (period). The temporal index can be relative or absolute and the modifier can determine if the value returned is differential or cumulative.

The first F9 addin was a significant software effort in that it used a coding trick to break the small memory model limit 1-2-3 imposed on addins and allowed F9 to be run as a compact memory model program. This allowed F9 to be written in C (using a Microsoft C DOS compiler) rather than assembler allowing easier changes and debugging.

On or about the year 2002 F9 was renamed to 'F9 - Financial Intelligence'.

**Excel Dominates 1-2-3**

An F9 addin was developed for Excel in 1989 and with the lack of a 1-2-3 version that supported Windows and problems with the Lotus Programming Language (LPL) the Excel version of F9 soon far outsold the 1-2-3 version.

**Current Versions**

There are two major types of F9 products, Hotlink products which link directly to specific accounting databases and Professional which links to an intermediate database which is populated from the source ERP systems by various means.

F9 has an Excel add-in client and provides new Excel functions as well as some of its own UI driven functionality. There are versions of F9 that are compatible with Excel Versions 2000 through 2007.

**Supported Accounting/ERP Systems**

By 1994 more and more accounting system vendors were signing to have a versions of F9 built to work with their general ledger product. By the end of the 1990s ever more and larger companies recognized the benefit of F9 and started using the product.

Over 150 different accounting/ERP systems are supported. Products are available as either a live link to the source accounting database, marketed as a "hotlink", or via F9 Professional and the F9
data mart database which is refreshed periodically with the source accounting activity. F9 "hotlink" products are available for over 40 different accounting systems. F9 Professional is available for over 100 different accounting systems and can be integrated over new accounting applications.

Supported accounting systems include:

- ACCPAC
- ACCPAC Professional Series
- ACCPAC Vision Point
- AMSI/Geac
- AccountMate Pro
- AccountMate products
- Acuity
- Adonix
- American Fundware
- Best (MAS90, MAS200, Enterprise, Businessworks)
- Business Vision
- BusinessWorks
- CYMA
- CYMA IV Accounting
- DacEasy
- Data Pro Accounting
- Data ProAbacus Accounting
- EIC - Foodservice Complete
- Forefront
- Freedom Financials
- Great Plains Accounting
- Great Plains Dynamics SQL
- Great Plains Dynamics Versions 4 - 6.0
- Great Plains Small Business Manager
- Great Plains eEnterprise
- Macola
- Macola Progression and ES products
- Microsoft Dynamics products including GP, SL (formerly known as Solomon)
- Small Business Financials
- Navision
- Netcellent
- Open Systems
- Platinum SQL
- Platinum for DOS
- Platinum for Windows
- RealWorld
- RealWorld Visual Accounting
- Red Wing
- Ross
- Sage products including Accpac, MAS, Business Works, BusinessVision, and ERP X3
- Skyline
- Solomon III
- Solomon IV
- Solomon IV SQL
- Southware
- Syspro Impact
- TIMS
- Visual AccountMate

Features

- Financial Spreadsheet Formulas
- Use of natural language (English) accounting period specifiers
- Dynamic Report Filters
- Report Wizards
Table and Pivot Table Reporting
- Drilldown to Transactions
- Budget Reporting and Budget Write Back
- Consolidations
- Report Analysis
- 30-Day Trial Downloads
- Web reporting and dashboards

Comprehensive Annual Financial Report

A Comprehensive Annual Financial Report (CAFR) is a set of U.S. government financial statements comprising the financial report of a state, municipal or other governmental entity that complies with the accounting requirements promulgated by the Governmental Accounting Standards Board (GASB). GASB provides standards for the content of a CAFR in its annually updated publication Codification of Governmental Accounting and Financial Reporting Standards. The U.S. Federal Government adheres to standards determined by the Federal Accounting Standards Advisory Board (FASAB).

A CAFR is "compiled" by a state, municipal or other governmental accounting staff and "audited" by an external American Institute of Certified Public Accountants (AICPA) certified accounting firm utilizing GASB requirements. It is composed of three sections: Introductory, Financial and Statistical. It combines the financial information of fund accounting and Enterprise Authorities accounting.

History

The National Committee on Municipal Accounting (NCMA) was formed in 1934 by the Government Financial Officers Association to create accounting standards. As a result of its work, the 'Principles of Municipal Accounting’, the predecessor to the CAFR, was created. The successor to the NCMA, the National Council on Governmental Accounting (NCGA), issued 'Governmental Accounting, Auditing and Financial Reporting’, which is the basis of the format for the current standard. This document, known as the "Blue Book”, and its successors documented the CAFR accounting structure and provided standardization and example documents. By 1946, the various levels of government—federal, state, local and municipal—
each began producing a CAFR to catalog an accurate picture of institutional funds, enterprise or financial holdings, assets and total investment incomes for those government and nongovernmental entities using the report. This measure is above and beyond the budget process and replaced what was regularly an "off-the-books" practice called the "general fixed asset account group". General Purpose government "budget" reports did not reflect accounting of this financial data, only reporting on the budget or "rainy day" funds or pension fund investments. By the 1970s, the CAFR became the nationwide paradigm for local government accounting. The resulting CAFR is presented to the GFOA, which conducts each year a review of applicant local government CAFRs and upon review awards their Certificate of Achievement Award for Excellence in Financial Reporting to those local governments that are in compliance with their CAFR accounting standards of preparation. Presently, accounting principles for government entities are set by transmittal letters issued to local governments by the GASB.

Differences between a general budget and a CAFR

The primary difference between a budget and a CAFR is that where the budget is a plan for the a fiscal period (often a year) primarily showing where tax income is to be allocated, the CAFR contains the results of the period (year) with previous years accumulations. A CAFR shows the total of all financial accounting that a general purpose budget reports does not. The CAFR contains a section that provides a comparison of period budget and actual. Additionally, the CAFR gives a detailed showing of investment accounts by category reflecting balances over previous years.

A Government budget document is a blueprint for a "specific grouping" of government agencies' spending over the course of an annual financial period. General Purpose Budgets contain both the spending categories of specified units of government, such as school districts, social services, transportation, police, fire, and park services; along with estimates of revenues expected to occur during the year, such as investment return; overrides of money from the previous year, and tax payments. They are usually more limited to the expected costs of running the aforementioned government operations through tax income as opposed to describing the status of any government fixed assets and investment wealth.

A CAFR is a report of the complete overall financial results of both those "specific groupings" of government agencies that appear in the current fiscal year General Purpose Budget and all other
agencies and departments. These can be autonomous, enterprise (for example government or city owned golf courses), recycling, water, sewer, and financial management - often these agencies were created with the inception of that local, state or government. The CAFR provides information about all of these other government agencies that may have their own budgets and separate investment accounts but their financial holdings are not combined with the general purpose budget that the same government presents to the public. The CAFR, or as it is called in CANADA CanFR can be used along with a budget document to compare the organizations total financial standing to the annual general purpose budget. The CAFR is the complete showing of the financial investment and income records from all sources, that reflects what has developed over decades whereas a budget report is an inferior document to the CAFR being that it is primarily focused on what revenue is expected to be brought in and spent for just the year.

In contrast with the rules applying to governments, publicly traded US companies are required by the U.S. Securities and Exchange Commission (SEC), to provide their Annual Financial Report (AFR) to every shareholder each year.

Media Coverage & Misconceptions

News stories covering financial issues of government cite "rainy day funds" or special "ear marked" funds, loans between government entities, sales of government holdings in, for example, shares of a health care insurance company and the "budget" is often referred to, along with mentions of pension funds investments, but the full accounting of assets of government entities, the "CAFR" is typically not mentioned. "Alternative" media, since the late 1990s, has exposed segments of the public to the subject of the (U.S.) CAFR contributing to the topic being labeled as "conspiracy theory" or "soap box" issue. Reporting on government financial issues can be seen as sensationalized in dealing with alleged excesses in spending. A $10,000 dollar Christmas tree for example, or vague mentions of "many billions" in referring to issues around the pension funds managed by a state. In one recent series of reports, the Kentucky Association of Counties whose spending came under scrutiny by the Lexington Herald-Leader provided some awareness of these types of entities as well as their surpluses and the claimed spending excesses while using money acquired from government fees for products like municipal insurance at premium rates, which build surpluses beyond the needs of the entity. Typical topics of the alternative media may include examples of: government entities financing each other's bond
issues; Orange County California's or other divisions of government investments in derivatives; financial deals that are kept from the public to entice businesses to locate in a state, which may include tax incentives in exchange for stock assets in a company. Much of both the mainstream and alternative media coverage of the topic of government financial issues must be considered a factor in public's confidence towards issues of government Accountability.

Single Audit

In the United States, the **Single Audit**, also known as the **OMB A-133 audit**, is a rigorous, organization-wide audit or examination of an entity that expends $500,000 or more of Federal assistance (commonly known as Federal funds, Federal grants, or Federal awards) received for its operations. Usually performed annually, the Single Audit’s objective is to provide assurance to the US federal government as to the management and use of such funds by recipients such as states, cities, universities, and non-profit organizations. The audit is typically performed by an independent certified public accountant (CPA) and encompasses both financial and compliance components. The Single Audits must be submitted to the Federal Audit Clearinghouse along with a data collection form, Form SF-SAC.

History

Before implementing the Single Audit, the federal government relied on numerous audits carried out on individual federally funded programs to ensure these funds were spent properly. Because the government had numerous agencies awarding hundreds of different programs, the task of auditing all programs became increasingly difficult and time consuming. To improve this situation, the Single Audit Act of 1984 standardized audit requirements for States, local governments, and Indian tribal governments that receive and use federal financial assistance programs.

In 1985, the United States Office of Management and Budget (OMB) issued OMB Circular A-128, “Audits of State and Local Governments,” to help recipients and auditors implement the new Single Audit. In 1990, OMB administratively extended the Single Audit process to non-profit organizations by issuing OMB Circular A-133, “Audits of Institutions of Higher Education and Other Non-Profit Organizations” which superseded OMB A-128. These new guides and provisions standardized the Single Audit in the United States to include all states, local
governments, non-profit organizations, and institutions that receive federal funds from the US government.

Purpose and components

The federal government provides an extensive array of federal assistance to recipients reaching over $400 billion annually. This assistance is provided through thousands of individual grants and awards annually for the purpose of benefiting the general public in the areas of education, health, public safety, welfare, and public works, among others. However, as a condition of receiving this assistance recipients must comply with applicable federal and state laws and regulations, as well as any particular provisions tied with the specific assistance. The Single Audit provides the Federal government with assurance that these recipients comply with such directives by having an independent external source (the CPA) report on such compliance. However, it only applies to state, local government, and nonprofit recipients that expend $500,000 or more of such assistance in one year.

A Single Audit encompasses an examination of a recipient’s financial records, financial statements, federal award transactions and expenditures, the general management of its operations, internal control systems, and federal assistance it received during the audit period (the time period of recipient operations examined in the Single Audit, which is usually covers a natural or fiscal year). The Single Audit is divided into two areas: Compliance and Financial.

The compliance component of a Single Audit covers the study and understanding (planning stage) as well as the testing and evaluation (exam stage) of the recipient with respect to federal assistance usage, operations and compliance with laws and regulations. The financial component is exactly like a financial audit of a non-federal entity which includes the audit of the financial statements and accompanying notes. Depending on the recipient, the Single Audit can be simple and straightforward, or it could be complex and troublesome. This is because there are millions of federal grants awarded each year to thousands of recipients, each with its own independent way of operating. Therefore, the Single Audit differs from recipient to recipient and from federal program to program.

For these reasons, the federal government requires auditors to perform the compliance audit of a recipient with a planning stage and an exam stage. During the first stage, or planning stage, the auditor must study the recipient, determine whether there is a high or low risk that the recipient
does not comply with laws and regulations, identify federal programs, and evaluate such programs. The second stage, or exam or audit stage, is where the auditor actually audits the federal assistance and programs. The planning stage is considered an integral part of the Single Audit because it allows the auditor to design and perform the audit based on the qualities, characteristics and needs of the recipient to be audited.

Compliance audit: planning stage

**Low- or high-risk auditee**

Before determining which federal programs to examine, the auditor must first study the recipient itself. This evaluation requires the auditor to interview employees, observe operations, obtain third-party references, and read the recipient’s prior audit reports, among other procedures. This helps the auditor understand the recipient and determine whether it is likely that it does or doesn’t comply with federal laws and regulations. This is performed because the recipient’s operations, procedures, and work ethic directly affects the compliance of individual federal programs with laws and regulations.

The evaluation concludes with the auditor determining, based on the evaluation, whether the recipient is a **high-risk** auditee or a **low-risk** auditee. A high-risk auditee is a recipient which has a high risk of not complying with federal laws and regulations, while a low-risk auditee is the exact opposite. For example, an auditor may judge a recipient to be a high-risk auditee because the audit reports of the past few years have numerous **audit findings** (e.g. specific situations of non-compliance with laws and regulations, serious deficiencies in internal controls and/or acts of fraud), or because the auditor receives news from various sources that the recipient is engaged in illegal activities, such as money laundering. On the other hand, the auditor may determine that a recipient is low-risk because its management personnel have a good work ethic, the auditor has received good references from external sources, or because the recipient has never received any audit findings. However, the OMB Circular A-133 has set certain requirements a recipient must meet to be considered a low-risk recipient. This includes the following:

- Single audits have been performed on an annual basis in prior years.
- The auditor's opinions on the financial statements and the Schedule of Federal Expenditures (discussed later) were unqualified (financial statements are reasonably correct).
• There are no material weaknesses identified in prior year audits.

• None of the Federal programs previously audited had audit findings in the last two years.

The OMB Circular A-133 uses the high and low risk determination to regulate the amount of auditing to be performed. Although the actual work necessary for a Single Audit is established by the auditor, the OMB has set a limit for auditing high-risk and low-risk recipients. For high-risk recipients, the auditor is required to audit not less than 50% of all the federal assistance received during the year. For low-risk recipients, that limit is decreased to 25%.

This determination affects the entire Single Audit because the auditor adjusts the examination accordingly. Since the auditor must provide an opinion to the federal government on whether the recipient and its programs complied with laws and regulations, the auditor performs sufficient tests and audit procedures (also known as audit work) to confirm the opinion is correct. Normally, the auditor greatly increases the amount of auditing for high-risk auditees, to ensure their opinion is correct. For low-risk auditees, the auditor is not as rigorous; but still recognizes that a low-risk recipient may still have compliance issues. Conversely, a high-risk determination doesn’t mean the recipient is non-compliant, just that they’re more likely to be.

Identification of federal assistance programs

To determine which federal programs to audit under the compliance audit, federal assistance expended by the recipient (also called federal expenditures) during one year is identified by federal program name, Federal agency and CFDA number. These federal expenditures are then combined to determine the total amount expended during the year. Any recipient whose total federal expenditures during a year equal or exceed $500,000 requires a Single Audit. If the recipient does not meet this threshold, a Single Audit is not required, although the recipient may elect to have a program-specific audit (an audit of a single federal program, without auditing the entire entity). Once this determination is performed, OMB Circular A-133 requires that federal programs be categorized in two groups: Type A programs and Type B programs.

• **Type A program** – a Type A program is any federal program within a recipient which expends either: (1) $300,000 or more of federal assistance for recipients with $10 million or less of expended federal assistance during the audit period, or (2) 3% of the total federal assistance expended during the year for those who exceed $10 million, whichever is greater.
In other words, if a recipient expended a total of $10 million or less in federal assistance, then any single program which expended $300,000 or more is considered a Type A. If a recipient expended more than $10 million in federal assistance, then any single program which expended 3% of that amount is considered a Type A program.

- **Type B program** – A Type B program is any single program which does not meet the Type A requirements. Example 1 – The City of Example operates a Section 8 program, and expended $450,000 in Section 8 funds and $5,000,000 of total federal assistance during the year. Since this amount does not exceed $10,000,000, the Section 8 program is considered a Type A program because $450,000 exceeds the $300,000 threshold.
  
  Example 2 – Using the same data in Example 1 with the exception that the City of Example now expended a total of $15,000,000 in federal assistance, the Section 8 program would meet the Type A threshold because $450,000 is equal to $15,000,000 x 3% ($450,000).
  
  Example 3 – Using the same data in Example 1 with the exception that the City of Example now expended a total of $20,000,000 in federal assistance, the Section 8 program would not meet the Type A threshold because $450,000 is less than $20,000,000 x 3% ($600,000), and would be considered a Type B program.

**Risk assessment**

After determining which programs are Type A and Type B, the OMB Circular A-133 requires that the auditor study and understand the operations and internal controls of such programs within the entity, and perform and document a risk assessment based on such study to determine whether each program has either a high or low risk of not complying with laws and regulations. Auditor may consider numerous factors including current and prior audit experience, good or poor internal controls over Federal programs, many or no prior audit findings, continuous or lack of oversight exercised by the federal government over the recipient, evidence or knowledge of fraud, and the inherent risk of the Federal program.

For any Type A program which are considered to be a high risk of not complying, the OMB Circular A-133 requires that the auditor to perform a compliance audit on that program. For a Type A program that is considered to be of low risk, then the auditor is not required to perform a compliance audit, although the OMB Circular A-133 allows the auditor to do so if he/she
chooses to. Although the risk assessment is performed by the auditor based on his/her judgment, the OMB Circular A-133 does have two requirements for a program to be considered low risk. First, the program must have been audited at least once in the last two years, and second, the program must have no audit findings when it was last audited. If the program does not comply with either of these two requirements, it is automatically considered as high risk.

For the smaller Type B programs which have been identified as high-risk, the auditor has two options: either audit half of all high-risk Type B programs, or audit one Type B high-risk program for every low-risk Type A program. Type B programs which have a low risk of not complying are not required to be audited.

Compliance audit: exam stage

After the auditor determines which federal programs to audit, the auditor performs a compliance audit that scrutinizes operations of the program—examining files, documents, contracts, checks, etc. The auditor investigates, to some degree, transactions between the federal program and other parties. These functions are compared with the laws and regulations applicable to a program to see if they complied or not. The examination does not require observing every single document and every single process generated by the program, nevertheless the auditor is required to perform enough procedures to form an opinion on whether the program (as a whole) complied with laws and regulations.

Due to the amount of federal regulations, the federal government has provided certain guides and literature to assist the auditor in the examination, which includes the OMB Circular A-133 Compliance Supplement and the Compliance requirement

**OMB Circular A-133 compliance supplement**

The OMB Circular A-133: Compliance Supplement is a large and extensive guide created by the OMB for Single Audits, and is considered the most important tool of both the auditor and the recipient when performing, or being subject to, a Single Audit. It was created following amendments in 1996 to the Single Audit Act and serves to identify existing important compliance requirements that the Federal Government expects to be considered as part of a Single Audit. Without it, auditors would need to research thousands of laws and regulations for each single program of a recipient to determine which compliance requirements are important to
the Federal Government. For Single Audits, the Supplement replaces any agency audit guides and other audit requirement documents for individual Federal programs.

**Compliance requirements**

Compliance requirements are series of directives provided by Federal agencies that summarize hundreds of laws and regulations applicable to federal assistance and are important to the successful management of such assistance. The OMB created 14 basic and standard compliance requirements for which recipients must always comply with when receiving and using federal assistance, and provided detailed explanations, discussions, and guidance about them in the OMB Circular A-133 Compliance Supplement. These compliance requirements only serve as guidelines for compliance with the specific laws and regulations applicable to the assistance and their objectives are designed to be generic in nature, because of the amount of different federal programs provided by the government. For example, many federal programs have eligibility requirements for individuals or organizations to participate in such programs because they have been established by either laws, regulations, or contract provisions. However, while the criterion for determining eligibility varies from program to program, the objective of the Eligibility compliance requirement that "only eligible and qualified individuals or organizations participate" is consistent and universal across all federal assistance programs. This eligibility universal criteria is called the **Eligibility** compliance requirement.

**Financial audit**

*Main article: Financial audit*

The Single Audit requires that a recipient prepare financial statements specifically for the single audit. It also requires that a financial audit be performed on the recipient, which includes the federal assistance operations as well as the non-federal assistance operations. Tests of transactions and account balances are performed to ensure that the information presented in the financial statements, and notes thereof, are reasonably correct. Additionally, the recipient must prepare a Schedule of Federal Expenditures, which is a supplementary financial statement unique to recipients of federal assistance that details all the federal assistance expended by the recipient during the year, categorized by federal program. The auditor must then audit and report on this Schedule as if it were part of the standard financial statements.
Data Collection and Reporting Package

After the Single Audit is concluded, the recipient prepares two documents: a “Data Collection Form” and a “Reporting Package”. The data collection form, Form SF-SAC, is a standard form which is basically a summary of the Single Audit. It includes details of the auditor, a list of the federal programs audited, and a summary of any audit findings reported by the auditor. The Form SF-SAC is available at http://harvester.census.gov/fac/. The Reporting Package includes all the auditor’s final reports along with the recipient’s financial statements. It includes:

- Auditor’s reports
- Management Discussion and Analysis (MD&A) – This serves as an introduction to the recipient’s financial statements where the recipient’s management (e.g., Governors, in the case of states; Mayors, in the case of cities; President, in the case of non-profit organizations, etc.) discusses the results of operations and other financial information, offering insight and detailed description about the recipient itself.
- Recipient’s financial statements – This contains the financial statements required by the Governmental Accounting Standards Board (GASB), which includes the Government-wide statements as well as the Fund Financial Statements.
- Recipient’s notes to the financial statements – This includes any notes and disclosures for the financial statements as required by US Generally Accepted Accounting Principles (GAAP).
- Supplemental Information – This section includes both financial and non-financial information relative to the recipient which is not covered in the MD&A or the financial statements and their respective notes.
- Schedule of Federal Award Expenditures – This document details all federal assistance expenditures made by the recipient during the audit period, categorized by the federal program and federal agency.
- Schedule of Findings and Questioned Costs – If the auditor finds situations where the recipient did not comply with laws and regulations, where internal controls are deficient, or a situation of illegal acts or fraud, the auditor is required to report such situations to the federal government in this section, as well as any questioned costs. Questioned costs are amounts that the recipient expended, but which the auditor has determined that they were not permitted and must be returned to the federal government.
• Schedule of Prior Audit Findings – In this section, the auditor is required to follow-up and report about the recipient’s corrective action on any audit findings reported in prior years.

Both the Data Collection and the Reporting Package are kept by the recipient with copies submitted to the Federal Audit Clearinghouse (FAC), and to any Federal agency who specifically requests it. Federal guidelines require recipients to submit the documents no more than 30 days after the auditor submits his reports or 9 months after the final day of the audit period, whichever comes first.

Auditor responsibility

The auditor is responsible for conducting the actual audit of the recipient in accordance with Generally Accepted Government Auditing Standards (GAGAS) and using the guidance provided by the OMB Circular A-133 and its Compliance Supplement, all of which establish certain rules to follow during the Single Audit. The auditor must establish audit objectives that determine whether the recipient complied with laws and regulations. They must research the recipient’s federal assistance awards and programs to determine applicability of specific laws and regulations. They must understand the recipient, its organization, operations, internal control systems, and ability to responsibly manage federal assistance. They must perform audit procedures (some of which are suggested by the Compliance Supplement) to meet these audit objectives.

The auditor must understand the recipient’s internal control system to determine if the recipient has proper safeguards that help manage federal assistance responsibly. After obtaining sufficient knowledge of that system, the auditor must perform audit procedures to verify the recipient’s internal control system works properly, and the recipient’s federal program operations comply with laws and regulations (e.g., the compliance audit portion of the Single Audit).

As part of the Single Audit, the auditor must prepare and submit three individual reports to the recipient and to the federal government. The first report is an opinion, or a disclaimer thereof, on whether the recipient’s financial statements are presented in conformity with US Generally Accepted Accounting Principles, identical to a financial audit’s report on a non-recipient entity. The second report is about the status of internal controls relative to the financial statements and major programs. The third report is an opinion, or a disclaimer thereof, on the degree to which the recipient has complied with laws, regulations, and the terms and conditions of the federal
assistance awards. Following the last two reports, if the Single Audit produced audit findings, the auditor must prepare the Schedule of Findings and Questioned Costs discussed earlier.

The auditor’s judgment is necessary to determine which audit procedures are sufficient to achieve the audit objectives, and whether additional or alternative audit procedures are needed to achieve such objectives. The auditor is responsible for determining the nature, timing, and extent of the audit procedures necessary to meet the audit objectives (i.e., it is the auditor who determines the necessary amount of his/her audit work needed to form an opinion on whether the recipient complied with laws and regulations).
CHAPTER 5
Various Aspects of Financial Reporting

The Financial Reporting Council (FRC) is the UK's and the Republic of Ireland's independent regulator responsible for promoting high quality corporate governance and reporting to foster investment.

Financial Reporting Standards Board (FRSB) is a board of New Zealand Institute of Chartered Accountants. Its objective is to develop, revise and maintain definite accounting standards and providing guidance through research bulletins or technical practice aids in all aspects of financial reporting. FRSB forwards new accounting standards to the Accounting Standards Review Board (ASRB) for approval. It also works with the International Accounting Standards Board (IASB).

All regulated financial institutions in the United States are required to file periodic financial and other information with their respective regulators and other parties. Thrifts are required by the Office of Thrift Supervision (OTS), among other requirements, to file a key quarterly financial report called the Thrift Financial Report (TFR) to be filed electronically with the OTS. In 2007, there had been a proposal that thrifts convert to filing a similar report, the Report of Condition and Income commonly referred to as the Call Report, which banks prepare and file with the Federal Deposit Insurance Corporation. Since thrifts continue to file TFRs today, the proposal was dismissed or set aside for the time being.

Specifically, OTS regulation 12 CFR 563.180 requires the completion of the TFR by all savings associations as defined in 12 CFR 561.43. The TFR is filed electronically on a quarterly basis and is due no later than 30 days after quarter end, except for Schedule HC, Thrift Holding Company, and Schedule CMR, Consolidated Maturity and Rate, which are due no later than 45 days after quarter end.

The TFR contains 17 schedules, which include financial statements and supplemental information filed for the reporting savings association consolidated with its subsidiaries. Information on the TFR, including income and expense and cash flow data, is reported for the quarter, not year-to-date, with the exception of Schedule FS, Fiduciary and Related Services, in which fiduciary and related services income is reported for the calendar year-to-date. Most information on the TFR is available to the public for individual institutions; however, certain
information is considered proprietary and is not released. All data are released in aggregate form. See this list of TFR schedules and their availability to the public. TFRs, and Call Reports filed are publicly available at the FDIC website; TFR schedules for an institution can be viewed (htm pages) or can be downloaded as text (.txt) files to be viewed or manipulated as desired with programs such as Microsoft Excel or Microsoft Word.

With the implementation of the Dodd Frank Act and the sunset of the OTS on July 21, 2011, all thrift institutions are required to submit Call Reports instead of TFR effective March 2012.

Public Accounting Report is a monthly eight-page newsletter that covers competitive intelligence and the business side of the public accounting profession. Among its proprietary features are the PAR Top 100, an annual ranking of the 100 largest accounting firms in the United States; and the PAR Professors Survey, an annual ranking of the best accounting programs in the United States based on the opinions of accounting professors at American universities.

Failure reporting, analysis, and corrective action system

A failure reporting, analysis and corrective action system (FRACAS) is a system, sometimes carried out using software, that provides a process for reporting, classifying, analyzing failures, and planning corrective actions in response to those failures. It is typically used in an industrial environment to collect data, record and analyse system failures. A FRACAS system may attempt to manage multiple failure reports that are recorded by numerous individuals in different ways. FRACAS produces a history of failure and corrective actions.

The FRACAS method was developed by the US Govt. and first introduced for use by the US Navy and all department of defense agencies in 1985. The method calls for a systematic failure data collection, management, analysis, and corrective action implementation.

FRACAS process is a disciplined closed loop failure reporting, analysis and corrective action system. The FRACAS process is a useful tool in the achievement of product reliability and safety. A FRACAS is used to record all failures and problems related to a product or process and their associated root causes and failure analyses in order to assist in identifying and implementing corrective actions.

One of the most common methods for reliability operational assessment is a FRACAS – a systematic approach for reliability, safety, and logistics assessment based on failure or incident
reporting, management, analysis, and corrective/preventive actions. Organizations today are adopting this method (FRACAS) and utilize commercial systems such as a web-based FRACAS application enabling an organization to create a failure/incident data repository from which statistics can be derived to view accurate and genuine reliability, safety, and quality.

Common FRACAS outputs may include: Field MTBF, MTBR, MTTR, spares consumption, reliability growth, failure/incidents distribution by type, location, part no., serial no, symptom, etc.

Financial Transactions and Reports Analysis Centre of Canada

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Financial Transactions and Reports Analysis Centre of Canada (FINTRAC) gathers, analyzes, assesses, and discloses financial intelligence. Originally created in July 2000 to counter suspected money laundering, FINTRAC's mandate was expanded in December 2001 to provide the Canadian Security Intelligence Service (CSIS) with information on terrorist financing that threaten the security of Canada.

FINTRAC was established under the Proceeds of Crime (Money Laundering) Act, which was amended in December, 2001 to become the Proceeds of Crime (Money Laundering) and Terrorist Financing Act (PCMLTFA). FINTRAC's mandate was further amended in 2006 under Bill C-25 to expand the scope and require more detailed reporting by entities and individuals when certain risks thresholds were exceeded or identified. The Director of FINTRAC reports to the Minister of Finance.

FINTRAC receives information on:

- Suspicious transactions
- Suspected terrorist property
- Large cash transactions
- Electronic funds transfer
- Cross border currency reporting

In 2006, FINTRAC identified over CA$5 billion in suspected money laundering and terrorist financing.

Suspicious transactions are financial transactions that there are reasonable grounds to suspect are related to the commission of a money laundering offence. Since June 12, 2002, suspicious transactions also include financial transactions that there are reasonable grounds to suspect are related to the commission of a terrorist activity financing offence. Suspicious transactions must be reported by financial entities (banks and financial dealers), money services businesses, life
insurance companies and agents, certain government agencies that take deposits (such as Canada Post), accountants or accounting firms, real estate agents and brokers, and casinos.

**Fatality Analysis Reporting System (FARS)** was created in the United States by the National Highway Traffic Safety Administration (NHTSA) to provide an overall measure of highway safety, to help suggest solutions, and to help provide an objective basis to evaluate the effectiveness of motor vehicle safety standards and highway safety programs.

FARS contains data on a census of fatal traffic crashes within the 50 States, the District of Columbia, and Puerto Rico. To be included in FARS, a crash must involve a motor vehicle traveling on a trafficway customarily open to the public and result in the death of a person (occupant of a vehicle or a non-occupant) within 30 days of the crash. FARS has been operational since 1975 and has collected information on over 989,451 motor vehicle fatalities and collects information on over 100 different coded data elements that characterizes the crash, the vehicle, and the people involved.

FARS is vital to the mission of NHTSA to reduce the number of motor vehicle crashes and deaths on our nation's highways, and subsequently, reduce the associated economic loss to society resulting from those motor vehicle crashes and fatalities. FARS data is critical to understanding the characteristics of the environment, trafficway, vehicles, and persons involved in the crash.

NHTSA has a cooperative agreement with an agency in each state government to provide information in a standard format on fatal crashes in the state. Data is collected, coded and submitted into a micro-computer data system and transmitted to Washington, D.C. Quarterly files are produced for analytical purposes to study trends and evaluate the effectiveness highway safety programs. This Data is tabulated and provided to the public via the FARS Interface at SMART
S.M.A.R.T. (Self-Monitoring, Analysis and Reporting Technology; often written as SMART) is a monitoring system for computer hard disk drives to detect and report on various indicators of reliability, in the hope of anticipating failures.

When a failure is anticipated by S.M.A.R.T., the user may choose to replace the drive to avoid unexpected outage and data loss. The manufacturer may be able to use the S.M.A.R.T. data to discover where faults lie and prevent them from recurring in future drive designs.

Background

Hard disk failures fall into one of two basic classes:

- Predictable failures result from slow processes such as mechanical wear and gradual degradation of storage surfaces. Monitoring can determine when such failures are becoming more likely.
- Unpredictable failures happen suddenly and without warning. They range from electronic components becoming defective to a sudden mechanical failure (perhaps due to improper handling).

Mechanical failures account for about 60% of all drive failures.

While the eventual failure may be catastrophic, most mechanical failures result from gradual wear and there are usually certain indications that failure is imminent. These may include increased heat output, increased noise level, problems with reading and writing of data, or an increase in the number of damaged disk sectors.

Work at Google on over 100,000 drives over a 9-month period found correlations between certain SMART information and actual failure rates. In the 60 days following the first off-line scan uncorrectable error on a drive (SMART attribute 0xC6 or 198), the drive was, on average, 39 times more likely to fail than it would have been if no such error occurred. First errors in reallocations, offline reallocations (SMART attributes 0xC4 and 0x05 or 196 and 5) and probational counts (SMART attribute 0xC5 or 197) were also strongly correlated to higher probabilities of failure. Conversely, little correlation was found for increased temperature and no correlation for usage level. However, the research showed that a large proportion (56%) of the failed drives failed without recording any count in the 'four strong S.M.A.R.T. warnings'
identified as scan errors, reallocation count, offline reallocation and probational count. Further, 36% of drives failed without recording any S.M.A.R.T. error at all (except temperature), meaning that S.M.A.R.T. data alone was of limited usefulness in anticipating failures.

PCTechGuide's page on SMART (2003) comments that the technology has gone through three phases:

In its original incarnation SMART provided failure prediction by monitoring certain online hard drive activities. A subsequent version improved failure prediction by adding an automatic off-line read scan to monitor additional operations. The latest "SMART" technology not only monitors hard drive activities but adds failure prevention by attempting to detect and repair sector errors. Also, while earlier versions of the technology only monitored hard drive activity for data that was retrieved by the operating system, this latest SMART tests all data and all sectors of a drive by using "off-line data collection" to confirm the drive's health during periods of inactivity.

History and predecessors

An early hard disk monitoring technology was introduced by IBM in 1992 in its IBM 9337 Disk Arrays for AS/400 servers using IBM 0662 SCSI-2 disk drives. Later it was named Predictive Failure Analysis (PFA) technology. It was measuring several key device health parameters and evaluating them within the drive firmware. Communications between the physical unit and the monitoring software were limited to a binary result: namely, either "device is OK" or "drive is likely to fail soon".

Later, another variant, which was named IntelliSafe, was created by computer manufacturer Compaq and disk drive manufacturers Seagate, Quantum, and Conner. The disk drives would measure the disk’s "health parameters", and the values would be transferred to the operating system and user-space monitoring software. Each disk drive vendor was free to decide which parameters were to be included for monitoring, and what their thresholds should be. The unification was at the protocol level with the host.

Compaq submitted its implementation to the Small Form Factor (SFF) committee for standardization in early 1995. It was supported by IBM, by Compaq's development partners Seagate, Quantum, and Conner, and by Western Digital, which did not have a failure prediction
system at the time. The Committee chose IntelliSafe's approach, as it provided more flexibility. The resulting jointly developed standard was named SMART.

That SFF standard described a communication protocol for an ATA host to use and control monitoring and analysis in a hard disk drive, but did not specify any particular metrics or analysis methods. Later, "SMART" came to be understood (though without any formal specification) to refer to a variety of specific metrics and methods and to apply to protocols unrelated to ATA for communicating the same kinds of things.

Information provided

The technical documentation for SMART is in the AT Attachment (ATA) standard. First introduced in 2004, it has undergone regular revisions, the latest being in 2008.

The most basic information that SMART provides is the SMART status. It provides only two values: "threshold not exceeded" and "threshold exceeded". Often these are represented as "drive OK" or "drive fail" respectively. A "threshold exceeded" value is intended to indicate that there is a relatively high probability that the drive will not be able to honor its specification in the future: that is, the drive is "about to fail". The predicted failure may be catastrophic or may be something as subtle as the inability to write to certain sectors, or perhaps slower performance than the manufacturer's declared minimum.

The SMART status does not necessarily indicate the drive's past or present reliability. If a drive has already failed catastrophically, the SMART status may be inaccessible. Alternatively, if a drive has experienced problems in the past, but the sensors no longer detect such problems, the SMART status may, depending on the manufacturer's programming, suggest that the drive is now sound.

The inability to read some sectors is not always an indication that a drive is about to fail. One way that unreadable sectors may be created, even when the drive is functioning within specification, is through a sudden power failure while the drive is writing. Also, even if the physical disk is damaged at one location, such that a certain sector is unreadable, the disk may be able to use spare space to replace the bad area, so that the sector can be overwritten.
More detail on the health of the drive may be obtained by examining the SMART Attributes. SMART Attributes were included in some drafts of the ATA standard, but were removed before the standard became final. The meaning and interpretation of the attributes varies between manufacturers, and are sometimes considered a trade secret for one manufacturer or another. Attributes are further discussed below.

Drives with SMART may optionally maintain a number of 'logs'. The error log records information about the most recent errors that the drive has reported back to the host computer. Examining this log may help one to determine whether computer problems are disk-related or caused by something else (error log timestamps may "wrap" after $2^{32}$ ms = 49.71 days).

A drive that implements SMART may optionally implement a number of self-test or maintenance routines, and the results of the tests are kept in the self-test log. The self-test routines may be used to detect any unreadable sectors on the disk, so that they may be restored from back-up sources (for example, from other disks in a RAID). This helps to reduce the risk of incurring permanent loss of data.

Standards and implementation

**Lack of common interpretation**

Many motherboards display a warning message when a disk drive is approaching failure. Although an industry standard exists among most major hard drive manufacturers, there are some remaining issues and much proprietary "secret knowledge" held by individual manufacturers as to their specific approach. As a result, S.M.A.R.T. is not always implemented correctly on many computer platforms, due to the absence of industry-wide software and hardware standards for S.M.A.R.T. data interchange.

From a legal perspective, the term "S.M.A.R.T." refers only to a signaling method between internal disk drive electromechanical sensors and the host computer. Hence, a drive may be claimed by its manufacturers to implement S.M.A.R.T. even if it does not include, say, a temperature sensor, which the customer might reasonably expect to be present. Moreover, in the most extreme case, a disk manufacturer could, in theory, produce a drive which includes a sensor for just one physical attribute, and then legally advertise the product as "S.M.A.R.T. compatible".
Visibility to host systems

Depending on the type of interface being used, some S.M.A.R.T.-enabled motherboards and related software may not communicate with certain S.M.A.R.T.-capable drives. For example, few external drives connected via USB and Firewire correctly send S.M.A.R.T. data over those interfaces. With so many ways to connect a hard drive (SCSI, Fibre Channel, ATA, SATA, SAS, SSA, and so on), it is difficult to predict whether S.M.A.R.T. reports will function correctly in a given system.

Even with a hard drive and interface that implements the specification, the computer's operating system may not see the S.M.A.R.T. information because the drive and interface are encapsulated in a lower layer. For example, they may be part of a RAID subsystem in which the RAID controller sees the S.M.A.R.T.-capable drive, but the main computer sees only a logical volume generated by the RAID controller.

On the Windows platform, many programs designed to monitor and report S.M.A.R.T. information will function only under an administrator account. At present, S.M.A.R.T. is implemented individually by manufacturers, and while some aspects are standardized for compatibility, others are not.

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