Chapter 10. ACCOUNTING

1. Accounting and reporting systems are crucial for budget management, financial accountability, and policy decision making. Traditionally, government accounting was aimed at assuring compliance and proper use of public monies. For this purpose, the cash budget, and cash and commitment accounting provide an adequate framework.

2. Experiences of performance budgeting during the 1960s to 1970s, the needs for managing business activities of the government or for preparing the national accounts, lead a few countries to develop accounting systems that encompass liabilities and assets[1]. The UN System of National Accounts (SNA) standards for the government sector were established on an accrual basis. However, in the 1980s, concerns about macroeconomic stabilization led most countries to focus back on cash and commitment reporting.

3. Currently, accrual accounting is gaining importance in several OECD countries. To assure not only financial compliance but also operational efficiency and results, these accounting and financial reporting systems require spending entities to report their full financial position (including their stock of assets and liabilities), and to assess the full costs of their operation, including the uses of assets. In parallel, concerns about the future impact of current policy decisions (such as those related to pensions) give governments an incentive to improve their accounting for liabilities. Some countries have switched recently from a cash accounting system to a full accrual accounting system.

A. ACCOUNTING SYSTEMS

1. Types of accounting systems

4. The bases of accounting systems are generally classified into four broad categories: cash, modified cash, modified accrual, and full accrual. This classification refers to the accounting principles that determine when the transactions or events should be recognized for financial reporting purposes.

5. However, this classification is somewhat schematic. For example, in countries with a cash-based system, government accounting has traditionally had a twofold approach:[2] (i) budgetary or *appropriation* accounting which keeps track of appropriations and uses of appropriations at different stages of the expenditure cycle; and (ii) cash-basis accounting which recognizes a transaction only when cash is received or disbursed. Therefore cash-basis accounting should not be to the exclusion of commitment accounting for monitoring budget management or compliance control. In fact, cash-based systems are sometimes called “cash and commitment” systems.[3] Besides commitments, cashed-based systems can also recognize other noncash transactions, such as receipts of foreign aid and some outstanding liabilities.

6. Complete budgetary accounting (or appropriation accounting) must be the common denominator of every accounting system. It should track appropriations, supplementary estimates, virements, and the uses of appropriations (release of funds, commitments, expenditures at the verification stage, and payments).

7. Accounting requirements depend on programs and agencies. A full accrual accounting system may be needed for an agency that delivers services or has commercial activities, while for other agencies a cash-based system and budgetary accounting could be satisfactory.

8. Therefore, the normative classification of bases of accounting presented below must not lead to oversimplifying the analysis of accounting systems and recommendations to improve them.

a. Cash accounting

9. "The cash basis of accounting measures the flow of cash resources. It recognizes transactions and events only when cash is received or paid"[4].

10. Financial statements produced under the cash basis of accounting cover cash receipts, cash disbursements, and opening and closing cash balances. A cash accounting system has the advantage to be simple.[5]

11. As mentioned above, a cash-based accounting system is supplemented, in a number of countries: (i) a few suspense or "below-the-line accounts" for some liabilities; (ii) commitment accounting; and (iii) debt accounting on an accrual basis.

b. Modified cash accounting

12. The modified cash basis of accounting "recognizes transactions and events which have occurred by year-end and are normally expected to result in a cash receipt and/or disbursement within a specific period after year end."

13. Therefore, the accounting period includes a "complementary period" for payments (e.g., 30 or 60 days) after the close of the fiscal year. Payments over the complementary period that are related to transactions of the previous fiscal year incurred during the fiscal year are reported as expenditure of this previous fiscal year. Usually, this is achieved by holding the books "open" during the complementary period. This aims at ensuring a greater conformity between the "annual" commitments made during a fiscal year and the payments that are reported as "budgetary expenditures".[6]

14. In some countries, the complementary period also concerns revenues. This should not be imperatively the case. Revenues must be reported on a pure-cash basis.

15. Modified cash accounting is frequently adopted by governments (particularly in the French and Spanish systems). However, as discussed below in section c, this system presents inconveniences in developing countries.

16. Financial statements produced under the cash basis of accounting cover cash receipts plus receivables within a specified period from the end of the period (complementary period); cash disbursements plus payables within a specified period from the end of the period (complementary period). Some countries that use the cash basis of accounting for their budget operations also produce financial statements under a modified accrual basis (e.g., France, Spain).

c. Modified accrual accounting

17. The modified accrual basis of accounting (sometimes called “expenditure basis”) recognizes transactions and events when they occur, irrespective of when cash is paid or received. However, there is no deferral of costs that will be consumed in future periods. Physical assets that will provide services in the future are “written off” (or “expensed”) in the period acquired.

18. Full accrual and modified accrual accounting therefore have the same accounting framework. The major difference lies in the time between the acquisition of goods and assets and their utilization. Under modified accrual accounting, supplies are considered consumed and assets are written off as soon as they are acquired. Under full accrual accounting, changes in inventories are recognized and assets are progressively depreciated according to their useful life. An overriding principle of full accrual accounting is the matching principle whereby expenses are recorded in the same period as the related revenues are recognized.

19. Compared with cash accounting, modified accrual accounting systems present the advantage of recognizing expenditures at the verification stage, and therefore give an adequate framework for assessing liabilities and arrears. There is a variety of modified accrual accounting systems, depending on the treatment of superannuation liabilities, inventories, depreciation (which may be recognized for some assets, as in Spain), etc.

20. Financial statements produced under a modified accrual accounting system cover revenues, expenditures, financial assets, liabilities, and net financial resources.

d. Full accrual accounting[7]

21. Like modified accrual, “the full accrual basis recognizes transactions and events when they occur irrespective of when cash is paid or received. Revenues reflect the amounts that came due during the year, whether collected or not. Expenses reflect the amount of goods and services consumed during the year, whether or not they are paid for in that period. The costs of assets are deferred and recognized when the assets are used to provide service”[8]. Full accrual accounting is similar to the accounting systems for private enterprises (commercial accounting).

22. “Expenses“ recognized by the full accrual basis of accounting, should not be confused with actual expenditures. They are the costs of goods and services consumed as well as any increase of liabilities or decrease of assets, over the accounting period (e.g. they include depreciation and losses, which can occur in the absence of transactions). The notion of expense in commercial accounting is similar to the notion of "use" in the SNA.

23. Financial statements produced under a full accrual accounting system cover revenues; expenses (including depreciation); assets (financial and physical); liabilities; net assets. Accrual accounting systems are reviewed in detail later in this chapter.

e. An evolving consensus?

24. Views differ concerning the usefulness of the “intermediate” bases of modified cash and modified accrual. The accounting subcommittee of the IFAC/PSC at its meeting of January 1999 decided to recommend a single standard covering cash accounting with all other accounting standards issued on an accrual basis. However, for governments that wish to convert from cash to accrual, a transition period would permit selective introduction of accrual elements. Much more discussion lies ahead before a firm consensus and agreement is reached on these issues. It must also be

stressed that public finance and economic policy considerations are relevant to the issues as well.

2. What is the difference among accounting systems?

25. The example below shows the broad differences between the different types of accounting.

Table 3
Comparison Among Accounting Systems

I. Current Expenditure

Accounting period January-December

Commitment, October 1996. Order of supplies	1100
Delivery/verification, November 1996	1000
Partial payment, December 1997:	800
Supplies used in 1997:	700
Inventory, December 31, 1997:	300
Depreciation of assets of the department, 1997:	137

	Account	Debit	Credit	date
Cash				
Payment	Budget operations	**800**		1996
	Cash-Bank		800	1996
Modified Accrual				
Verification	Budget operations	**1000**		1996
	Liability		1000	1996
Payment	Liability	800		1996
	Cash-Bank		800	1996
Full Accrual				
Verification	Budget operations	1000		1996
	Liability		1000	1996

Payment	Liability	800		1996
	Cash-Bank		800	1996
Use of supplies	Budget operations		1000	1997
	Expenses	700		1997
	Inventories		300	1997
Depreciation	Assets		137	1997
	Expenses	137		1997

Commitment: 1100 (1997) (should be registered whatever the basis of accounting)

II. Comparison between modified accrual and full accrual for investment

Bridge delivered in 1998
Amount is 2,000,000
Useful life: 50 years

Modified accrual:

1998 **Expenditure** **1,000,000**

Full accrual:

1998 ***Expenses*** ***0***
Assets *1,000,000*
1999 Expenses *20,000 (depreciation)*
Assets *980,000*
2000 Expenses *20,000 (depreciation)*
Assets *960,000, etc.*

3. Relationships between accounting systems and budget systems

26. In chapter 3, budget systems are classified according to the nature of the appropriations. Except for a few obligation-based budgets, two broad categories exist:

- *cash-based budget,* when most of the appropriations are authorizations to make annual commitments and to pay;

- *accrual-based budget*, when appropriations for running costs and some other items cover full costs, including depreciation, and other increases in liabilities.

27. There is no one-to-one mapping between accounting systems and budget systems. Cash-based accounting systems are always associated with cash-based

budgets, but a cash-based budget does not necessarily require cash accounting. On the other hand, accrual budgeting requires full accrual accounting, but full accrual accounting does not require accrual budgeting.

28. Every budgetary and accounting system has its own characteristics that make difficult to classify the system unambiguously. However, the following relationships of budget systems with accounting systems are found in various countries:

(i) Cash-based budgets. Countries with a cash-based budget may have the following accounting systems:

- cash accounting (e.g. traditional British Commonwealth system);
- modified cash accounting (e.g., some developing countries that follow the French or Spanish budgeting system);
- modified accrual accounting (e.g., Canada, France, Spain);
- accrual accounting, in the sense that depreciation is posted into the accounts, although accounting principles are not strictly defined along the Generally Accepted Accounting Principles (GAAP)[9] (e.g., transition economies);
- full accrual accounting. (e.g., the U.S., where it has been recently implemented for all federal government transactions[10]).

(ii) Accrual-based budget

- full accrual accounting: (e.g., New Zealand).

These differences concern mainly noninterest expenditures. As far as debt is concerned, most countries use accrual accounting.

4. Chart of accounts and general ledger

a. What is a chart of accounts?

29. A chart of accounts is a classification of transactions and events (payments, revenues, depreciation, losses, etc.) according to their economic, legal, or accounting nature. It defines the organization of the ledgers kept by the accountants. A chart of accounts is organized in the way transaction or event is defined (e.g., commitment, liability, payment, depreciation) and by the administrative category (for accounts covering internal operations). The budget classification system reviewed in chapter 3 defines the structure of the accounts or subaccounts of the chart of account that are related to budgetary operations.

30. Under a cash accounting system, the chart of accounts is often limited to budgetary accounts for payments, a few accounts for posting internal financial transactions and financing operations, and eventually a commitment account (or ancillary books for commitments). Under modified or full accrual accounting, expenditures at the verification stage are recognized as liabilities. Hence, they must be recorded in a ledger, which includes accounts for assets, liabilities, expenditures/expenses, revenues, etc.

31. Financial statements are prepared along the categories set in the chart of accounts. Financial statements prepared under an accrual accounting system are shown in section E.3 below. They are not a substitute for budget monitoring reports.

32. Figure 9 illustrates a chart of accounts and its relationship with the budget classification system and the reporting system.

[Insert Figure 9 here]

b. Financial Ledger

33. The set of books or the data base where all the transactions are recorded along the chart of accounts (including the budget classification system) is called the General ledger.

34. With a computer-based integrated financial management system, each transaction and its attributes can be recorded in a Financial Ledger System These attributes cover both the budget classification categories (function, organization, etc.) and the other chart of account categories (liabilities, increase of assets, etc.). In a manual system, commitments are generally recorded in ancillary books, often badly linked with the main ledger. In a computerized ledger system, there is one single data base, or a set of interrelated databases, which covers both the ledger for accounting and the ancillary books for tracking the uses of appropriations.

35. A computerized Financial ledger system will allow reporting according to the needs of the different users. It can perform budgetary execution controls, such as control of payments and commitments against appropriations. It fits a budget system with centralized ex-ante controls (e.g. in Brazil or in France), as well as budget systems where execution controls are carried within spending agencies (e.g., in the U.S.). Controls depend on the procedures for recording transactions not on the fact that transactions are recorded.

36. In a manual system, decentralizing accounting presents inconveniences for information dissemination. Modern technologies allow a more decentralized approach, since accounts can be easily consolidated provided that they fit the same classification system.

37. In theory, each elementary transaction is recorded into a GLS. However, depending on organizational arrangements, centralizing consolidated transactions can be sufficient, provided that this consolidation is made along the categories of the chart of accounts.[11] For example, if payroll administration is decentralized, it is sufficient to record in the GLS only the total personnel expenditures by program/project and object category. As discussed in chapter 8, this consolidation approach should not mean that cash balances are not centralized daily.

B. Accrual Accounting

38. Developing countries should avoid overambitious accounting reforms, which would be ineffective. Nevertheless, a review of the accrual accounting framework and methods gives directions for improving accounting.

39. A complete assessment of liabilities is desirable in every country. Recognizing expenditures as liabilities at the verification stage, and therefore assessing arrears accurately, should be systematically done. Issues related to some expenses, such as supernannuation liabilities, the treatment of interest subsidies, recognition of financial losses, concern all countries. Modified and full accrual accounting give methods for assessing and recognizing liabilities. These methods can however, be implemented gradually.

40. Concerning the assets side and the assessment of “full costs,” implementing full accrual accounting for all government agencies can be considered in only a very limited number of countries. However, agencies that deliver commercial services or consume a large quantity of capital goods should assess their full costs and consider adopting a full accrual accounting framework, at least for internal management. The transition countries that have some form of accrual accounting system could consider making the GAAP standards better, but for the time being, strengthening cash and expenditure reporting should have higher priority.

1. Revenues

41. The accrual basis of accounting recognizes the effects of transactions and other events in the period during which they occur, regardless of the timing of the associated cash receipts.

42. Practices vary in industrialized countries that have an accrual accounting system (e.g., the U.S., recognizes revenues on a cash basis; New Zealand’s approach is more accrual-based). Several developing countries include in their accounts taxes

owed on the basis of tax assessments. This is sometimes considered orthodox accrual accounting methodology. As an unfortunate result, accounts often show taxes that will never be collected. In fact, according to the accrual accounting principle, taxes assessed should be recognized only if they are expected to be collected. In developing and transition countries, this would call for estimating the probability of collecting assessed taxes. Posting revenues on the basis of such estimations is tricky[12]. In the Russian Federation, for example, tax collection is a central and variable problem.

43. In developing countries and transition economies, revenues must be recognized on a cash basis. (Obviously, data bases for tracking taxpayers and tax arrears are needed, but they should not be mixed with the government accounts.)

44. Accrual accounting recognizes grants-in-kind. Developing countries, whatever their accounting system, require the recording of grants-in-kind. While cash accounting and modified accrual accounting recognize the sale of assets as revenue, full accrual accounting recognizes only the loss/gain compared with the net book value.

2. Expenses in full accrual accounting

45. Full accrual accounting systems recognize “expenses” instead of “expenditures.” Although in common parlance the two terms are almost synonyms, in accounting they carry very different meanings. “Expenses” are the uses of resources over the accounting period (as opposed to expenditures, which are the value of goods of services acquired over the same period). They include the following items:

- Personnel costs, including pension liabilities;
- Full costs of all operating activities (including depreciation);
- Interest and other financial costs;
- Capital asset use (depreciation and loss of service potential), changes in the book value of physical assets, and losses;
- Accrued interest changes in the market value of financial assets and losses, and foreign exchange losses;
- Government transfers.

a. Pension liabilities

46. Each year, current employees earn entitlement to future benefits. If the government pays the pensions under a "pay-as-you go" system, the change in total cost of future pension entitlements is considered as an expense, based on the actuarial value of future pension payments (under certain economic and demographic assumptions). If instead pension contributions are paid into a pension fund and payouts are equal to the annual increase in the fund, the scheme is referred to as fully-funded. If the payments into the scheme are lower than the expenses, an unfunded liability must be recognized.

47. Assessing pension liabilities is important for policy formulation. It would reveal, for example, whether a fiscal deficit problem is merely shifted onto the future instead of being resolved. There is a temptation for hard-pressed governments to meet short-term cash deficit objectives through increased long-term liabilities. For example, in developed countries, governments sometimes promise pension increases in lieu of salary raises,[13] or obtain revenues from public enterprises in exchange for the transfer of pension liabilities of these enterprises to the budget. Therefore, the recognition of pension (and other) liabilities is a key advantage of accrual accounting.

b. Full costs and uses of physical assets

48. "Full costs" of programs include costs of goods and services acquired and used over the period, and the uses of inventories and assets (depreciation). For an assessment of full costs the following elements are needed: (i) sound management of physical assets and inventories; (ii) estimates of depreciation; and (ii) sound cost measurement systems, since overhead and shared use of equipment by various programs or activities must be imputed to each program/activity (cost measurement is reviewed below in section D2). Box 29 compares cash payments with full costs.

49. A capital expenditure is not an expense. Moreover, since payment schedules for construction works do not correspond systematically to the progress of the work, the

accounting increase in the physical assets may differ significantly from the expenditures made over the period.

Box 29

Comparison Between Full Costs and Cash Payments for a Program

For running costs over a given period
Payments for capital expenditures excluded

Cash payments

+ depreciation of physical assets over the period

+ Variations in liabilities over the period
  + New arrears over the period
  - Arrears at start of period paid over the period
  - Advance payments made over the period
  + Supplies/works financed with previous advance payment.

+ Variations in inventories over the period
  + Inventories consumed and losses
  - Increase in inventories

+ Costs of services provided by other programs/cost centers

- Costs of services provided to other programs/cost centers

Full costs

d. Transfers Subsidies

50. To recognize a transfer, it is necessary to assess whether there is in fact an obligation; whether the transfer is authorized; whether the beneficiary group can be identified, etc. All these decisions are partly a matter of judgement.

51. Loans granted by the government often include an interest subsidy and might not be repaid. Under accrual accounting, the interest subsidy must be posted and the risk of failure of the debtors will fail to repay is assessed. This method complements the suggestion made in chapter 2, including these loans in the budget, but is not a substitute for it. The loans should always be authorized by the legislature.

3. Liabilities

52. A liability is “a probable future outflow or other sacrifice of resources as a result of past transactions or events."[14] Liabilities include, notably, the following categories: (i) accounts payable; (ii) other accrued liabilities, e.g. pensions; and (iii) debt outstanding.

53. As reviewed in chapter 7, adequate management systems and procedures are needed to manage payables and take better account of unfunded liabilities in the budget. Issues related to debt management are reviewed in chapter 8. Other liabilities covered by an accrual accounting system concern, notably, liabilities related to government pensions, including hidden liabilities related to an independent pension schemes that the government will support if they cannot fulfill their obligations.

54. A contingent liability is a potential liability that depends on a future event arising out of a past transaction. Under accrual accounting, contingent liabilities are recognized as real liabilities when: (i) it is probable that future events will confirm that, after taking into account any related probability of recovery, an asset has been impaired or a liability incurred at the balance-sheet date; and (ii) a reasonable estimate of the amount of the resulting loss can be made.

55. This assessment can be difficult. The first step should be to publish the list of loans guaranteed, as recommended in chapter 2. Then, the preparation of a more complete statement of contingent liabilities should be considered. These statements would include a schedule of payments related to contingent liabilities and give some indication of the probable or most likely loss.

4. Assets

56. In principle, full accrual accounting could recognize the following categories of assets:

- Financial assets, such as, cash, revenues receivable, loans, etc.;
- Physical assets, such as, property, plant and equipment, infrastructural assets, investments, heritage assets, defense or military assets, and natural resources;
- Intangible assets, such as mineral or fishing rights (in theory at least).

57. Accounting for physical and intangible assets, when possible, would increase fiscal transparency. Sales of assets made through a privatization program, sales of facilities, and sales of gold reduce the cash deficit artificially. [15] Sales of mineral rights are in some developing countries an easy way to “balance” the budget, to the detriment of future generations. Identifying losses or gains related to the sale of intangible assets is not an easy matter, however.

58. Information on assets and inventories is needed for preparing decisions on maintenance, or the acquisition of new equipment and facilities and supplies. A full accrual accounting system gives a framework for setting up assets and inventory registers, but by itself does not improve asset management. To be effective, asset registers should be integrated into the accounting system, be up to date, regularly reconciled with the control records, and subject to periodic physical comparisons. As

shown by the poor quality of asset registers in developing countries, posting assets into the accounts risks being only a formal and bureaucratic exercise.

59. Issues related to physical assets are important for performance and cost measurements. There are also disputed features of full accrual accounting systems, notably those related to the valuation of military equipment, national parks, museums, and other heritage assets. Critics argue that there is no market for these assets and that, by definition, they are not to be sold in any case. On such issues, standards vary, depending on the nature of the asset and on the country.[16]

60. Assessing the value of all assets and posting them into the accounts would pose major difficulties in a majority of countries. However, whatever the basis of accounting, most countries need to improve their asset management. Asset registers should be maintained, beginning with sectors and/or types of assets for which assets management is crucial. (e.g., road maintenance agencies, computers, cars) To promote transparency, operations related to the sale of assets must be disclosed. One-shot operations must be separated from other transactions, in the accounts and financial statements.

5. Operating deficit

61. Under full accrual accounting the operating deficit[17] is the difference between expenses and revenues, as defined above. Therefore, increases in unfunded liabilities and uses of assets are “above the line” and included in the operating deficit, while investment expenditures are not taken into account in calculating the operating deficit. As indicated in chapter 3, the deficit on a cash basis is crucial in assessing the monetary impact of the budget policy and the deficit on a commitment basis to assess arrears, and their impact on the liquidity of the economy and the credibility of the government. The operating deficit can supplement these indicators, but is not a substitute for them.

62. From a macroeconomic point of view, proponents of accrual accounting note that the cash-basis fiscal deficit indicator introduces a bias against investment, since

investments and recurrent expenditures are accounted for in the same manner, despite the fact that the capital invested will be consumed over a longer period. Cash accounting systems are also seen to favor “number cooking” and “creative accounting,” when policy decisions diminish assets or increase the liabilities of the government.[18] However, accrual accounting also leaves plenty of room for “creative accounting”, through manipulating estimates of depreciation, provisions, method to recognize losses, etc.[19]

63. The deficit under a modified accrual accounting system is equal to the deficit on a cash basis plus net increases of liabilities. It is close to the “deficit on a commitment basis.” Depending on the accounting methods, two differences are, however, possible. On the one hand, the deficit on “a commitment basis" can include orders not yet delivered besides arrears. On the other hand, liabilities recognized by a modified accrual accounting system can include liabilities other than arrears (e.g., superannuation liabilities).

6. Accrual accounting and budget management

64. Figure 10 illustrates the relationships between the expenditure cycle and the accounting systems.

[Insert Figure 10 here]

65. Modified accrual accounting and full accrual accounting require an analysis of the invoices in order to post: (i) the related increase in physical assets (which is immediately written off under a modified accounting system); and (ii) the other contractual payments (e.g., variations in the advance payments account). Whatever the accounting system, this exercise is required particularly for civil works, since the contractual payment schedule is generally different from the work schedule.

66. As discussed earlier, full accrual accounting requires a detailed analysis of full costs. This needs an appropriate management system. Accrual accounting cannot rely

only on traditional budget management. It needs adequate management systems at the program or spending agency level.

7. Accrual budgeting

67. An accrual budget is presented according to the standards of full accrual accounting. However, as shown by the comparisons made in section A3, full accrual accounting should not be confused with accrual budgeting.

68. Figure 11 compares the budget execution cycle under an accrual budgeting system and under a cash budgeting system, both variants using a full accrual accounting system. Depreciation is only an accounting information item in a cash-based budget system. It is included into the appropriations in an accrual-based budget. Compared with accrual accounting with a cash-based budget, accrual budgeting systems have the advantage to give more importance in the budgetary process to full-cost estimates. However, this alters the traditional rules for compliance, since appropriations include depreciation forecasts no longer set a cash limit.

[Insert Figure 11 here]

69. Under an accrual budget, cash controls are based on separate cash plans that are not directly derived from appropriations. This requires sound cost estimates, and good fiscal discipline to avoid depreciation becoming an excuse for cash overruns. Accrual budgeting has proven to be neutral or even good for fiscal discipline in New Zealand but it could have the opposite effect in other countries if the appropriate cash controls are not in place. [20]

70. In most developing and transition countries, changing the nature of appropriation, and the rules for compliance would reduce fiscal discipline. In countries with poor accountability, it would open a new door to misappropriation and corruption, and be an excuse for diminishing accountability to Parliament. Developing and transition countries should not consider implementing an accrual budgeting system for the central government, even if they intend to develop an accrual accounting system. In

these countries, there are greater returns, and lesser risks, from ensuring control and discipline than from attempts at estimating the value of assets and their depreciation schedules.

71. These problems are related to the degree of “disconnect” between appropriations and the day-to-day management of payables. There are no such problems when the cash limits are presented to the legislature in the same degree of detail as accrual-based appropriations (as in Iceland). But this variant of “accrual budgeting” is really no different from a cash budget to which accrual accounting information is annexed.

72. Local governments in several countries (e.g., Malaysia, France, Italy, and the United Kingdom), present accrual information in their budget. The administrative organization and budget management procedures for local governments are much simpler than for central governments. The presence of an allowance for depreciation in the budget of a local government does not alter any rule for budget management. In developed countries, the presentation of local government budgets in a balance sheet format is often stipulated by regulatory texts issued by the central government, since it is seen as a means of controlling the running costs of the local governments.[21] An accrual-budget for local government can be favorably considered in developing countries where accountants have adequate skills.

C. Reforming an accounting system

73. Reforming an accounting system requires first analyzing its major weaknesses. For example, are arrears accurately monitored, payments reported in a transparent manner, accounting procedures clearly defined and enforced, etc.? Priority improvements in accounting should aim at consolidating the foundations for sound accounting. More complete budgetary accounting and disclosure of liabilities is needed in a majority of countries. The progressive development of a modified accrual accounting system should be considered favorably. In countries where conditions are conducive, a latter stage in improving accounting could be the progressive or partial

implementation of a full accrual accounting system, beginning with agencies where it is more useful for assessing performance.

1. Major weaknesses in accounting systems

a. Insufficient budgetary accounting

74. For traditional and administrative reasons, there is, in many countries, a separation between commitment accounting and the other elements of the accounting system. In a number of British Commonwealth countries, commitment registers are kept by spending agencies, but are badly linked with accounts kept by the Treasury Department. Therefore, the Ministry of Finance does not have sufficient information to supervise budget implementation.

75. A similar separation can also be found in countries with a more centralized system. For example, in developing countries under the French system, it is often difficult to compare data from the Financial Controller or the Budget Department, which control and record commitments and requests for payment prepared by spending agencies, with data from the Treasury, which makes the payments.

76. Coordination between the different actors involved in recording budget operations and accounting must be sought through improved procedures for information dissemination, and the setting up a comprehensive accounting framework covering all aspects of government accounting. Computerization of the expenditure cycle may help, provided that it does not also adopt a fragmented approach.

77. As discussed in chapter 7, expenditure should be monitored at each stage of the expenditure cycle. Commitment accounting is essential for control of budget implementation and for program management. For supplies and investment expenditures, the commitment and the verification stage are distinct stages in the expenditure cycle, and expenditures should be recorded at both stages. Expenditure accounting (at the verification stage) is essential for program and contract management, management of payables, and assessment of arrears. In countries that

face arrears, there may be significant gaps not only between expenditures and payments, but also between expenditures and commitments. Before delivering new committed orders, a cautious supplier usually waits for its previous deliveries to be paid.

78. Transactions that are to be recorded must be clearly defines and must be stipulated in the financial regulations. As discussed in chapter 6, the definition of “commitment” in the budgetary sense is based more on management grounds than on legal grounds. This is understandable. However, as discussed earlier, what a budgetary commitment is should be made clear. Moreover, commitments in the legal sense (contracts and orders) should be monitored by agencies, even when the commitment in the budgetary sense corresponds to the deliveries or to a reservation of funds.

79. In some countries, expenditures are monitored at a payment voucher stage, which corresponds neither to the verification stage nor to the payment stage. Expenditures at the verification stage must be recorded as soon as deliveries are verified (see chapter 5).

80. Supplementary estimates, virements/transfers, releases, allotments, etc. are often followed up in a fragmented manner. In several countries, it is difficult to determine which budget is being implemented, since supplementary estimates and virements are not assembled into a single document.

81. Often, spending units track uses of appropriations in single entry books while cash inflows and cash outflows are matched in double-entry books kept by the Treasury Department. When spending units record only one kind of operation (payment from a bank account or requests sent to the Treasury), single-entry bookkeeping does not pose a major problem. However, better linkages between the different components of the accounting system, comprehensive budgetary accounting and the recording of movements between budgetary accounts require generalized double-entry bookkeeping.

b. Arrears and liabilities

82. Issues related to arrears are reviewed in chapter 7. Many countries using the cash accounting system also have suspense or “below-the-line” accounts where they record some outstanding liabilities. The “below-the-line” accounts may cover financial assets such as advances, imprests and liquid investments, and financial liabilities such as deposits by contractors and some arrears. These “below-the-line accounts” make up partly for a lack of satisfactory monitoring of expenditures (at the verification stage) and liabilities. However, these accounts are far from covering all liabilities (in Nepal, for example, the suspense accounts are used only for liabilities due to personnel). All outstanding invoices and liabilities should be entered into the accounts. This implies the setting up of an appropriate budgetary accounting system, along the lines suggested below. Assessing arrears from separate registers kept in parallel to the accounts is only a palliative measure.

c. Nontransparent reporting of payments

83. Uses of “below-the-line accounts” are not systematically transparent and they may include off budget spending. This problem is not dependent on the basis of accounting; however, it is particularly crucial in developing countries with poor governance whose accounting systems are not on a pure-cash basis.

84. Budget execution is reported on the basis of requests for payment transmitted to the Treasury. In theory, these requests correspond to expenditures at the verification stage. In practice, since private suppliers require payment before delivering services to a government that has the habit of accumulating arrears, payment orders are usually based on pro-forma invoices. They are nevertheless entered into a liability account, where they sometimes stay for several months or even years. This account mixes true invoices, proforma invoices, old vouchers for transfers to government entities, and subsidies that were budgeted but never paid.

85. Budget execution reports show the requests for payments along the budget classification. Since accrued vouchers fit budget appropriations very well, formal compliance is ensured. *But the real budget execution is elsewhere*. It consists of the selection of the vouchers to be paid among the vouchers in the liability account. Payments made from the liability account do not follow the budgetary classification, since they have been classified as "expenditure" months (or years) before. As a result, "true" budget execution along the budget classification is completely unknown.

86. In a pure-cash accounting system and a pure-cash-based budget, the budget and the accounts are closed on the same day. Under a modified cash accounting system, there is a "complementary period", as indicated earlier. This has the advantage of taking into account the time between obligation and payment. However, keeping open the books of the previous year leads to questionable practices, such as executing two budgets at the same time. Budget data must therefore be adjusted to a chronological time to allow the comparison of fiscal and monetary statistics. In developing countries, modified cash accounting systems present risks as regards transparency and accountability.

87. In countries that accumulate arrears, full or modified accrual accounting could pose similar problems if payments are not monitored in accordance with the expenditure classification system. Payments are reported in the cash flow statements under accrual accounting systems. However, two sets of payments can be made in parallel: one from the budget itself, and the other from the liability account that contains accrued expenditures of the previous year not yet paid. Generally, this liability account does not have the same classification as the budget. In countries where payments are made on time, this technical difference is not a problem. But in countries that have weak accountability and/or that face an arrears problem, it is a different matter.

88. Whatever the basis of accounting, transparency requires reporting all payments over the accounting period and the fiscal year in accordance with the expenditure classification system, including payments related to expenditures made in a previous period.

d. Other weaknesses

89. Sometimes, “internal payments” (i.e., transfers of funds between government agencies) and "true" payments get mixed up. Line by line consolidation of expenditures, autonomous agencies, special accounts and expenditures of the consolidated or budgetary fund is required. Funds and autonomous agencies may have specific management procedures, but must report according to a common set of expenditure classifications (see chapter 3).

90. In several developing countries, lack of training of accountants and lack of clear accounting procedures create difficulties even for accounting for cash payments. Comparisons with bank statements are barely made, forms are coded only approximately, different accounts are confused. These problems, which concern especially small countries, where human resources with the appropriate skills are rare, and must be taken into account when reforming an accounting system. Training and the establishment of a clear accounting procedures are priority actions in such countries.

91. Management of assets is weak in a majority of developing countries. Asset register should be set up and updated, starting with agencies where the need is more urgent.

2. Minimum requirements

92. Whatever the basis of accounting, an accounting system should have the following features:

- Adequate procedures for bookkeeping, systematic recording of transactions, adequate security, and systematic comparison with banking statements. In a number of countries, this requires switching from a single-entry bookkeeping system for tracking transactions at the agency level, to a double-entry bookkeeping system. In several developing countries, comparisons with bank statements are barely made. Improving the situation does not need to

changing the basis of accounting, but requires training accountants and reviewing procedures. Computerizing the accounts may help in improving accounting procedures, but the related security issues must be reviewed. Some countries have implemented or are implementing “light” computerized system to quickly produce monitoring reports. Such systems can improve information dissemination, but often, data are not properly secured (backup procedures, control of accesses, etc.). In such situations, manual systems should not be abandoned completely.

- All expenditure and revenue transactions are recorded in the accounts, according to the same methodology. This covers funds with earmarked revenues and foreign and domestic loans, etc. (see chapter 2 for a discussion of the coverage of the budget).

- A common set of classifications for expenditure along functional and economic categories (see chapter 3).

- Clear and well-documented accounting procedures and clearly defined concepts (as discussed in chapter 6, the notion of commitment, for example, is diversely interpreted).

- Statements regularly produced (see section on reporting below).

- An adequate system for tracking the use of appropriations (“budgetary accounting”), at each stage of the expenditure cycle (commitment, verification, payment).

- Transparent reporting on trasactions made through “below-the-line” accounts or liability accounts.

3. Budgetary accounting

93. Sound budgetary accounting requires a double-entry bookkeeping system to record movements between budgetary accounts, namely, budgetary resource accounts (e.g. appropriation, apportionment, allotment); commitments; expenditures at the verification stage; and payment accounts.

94. A double-entry bookkeeping system ensures that outflows match inflows. This system can be simple. Procedures for accounting transactions along the expenditure cycle are as follows:

- *When an order is placed*, it is recorded: a commitment is recorded as: (i) an increase in obligations/undelivered orders; and (ii) a decrease in budgetary resources;

- *At the delivery/verification stage,* a bill is recorded as: (i) accrued expenditure/liability; and (ii) a decrease in the obligations/undelivered orders;

- *At the payment stage,* payment is recorded as: (i) a reduction in accrued expenditure/liability; and (ii) a reduction in cash.

95. In countries that monitor only payments, an immediate action could be to implement an obligation register and an ancillary book for outstanding payments. However, the objective should be to implement a comprehensive budgetary accounting system eventually.

4. Disclosing liabilities

96. Improvements in accounting and reporting on liabilities and contingent liabilities are required in most countries. The following elements should be covered:

- The budget monitoring/accounting system, which should show the arrears that arise from budget execution (which is the difference between expenditures at the verification stage and payments);

- Follow-up of transactions made from the stock of arrears from the previous year;

- Debt accounting on an accrual basis. This is necessary, whatever the basis of accounting;

- Accounting and reporting on other liabilities, such as unfunded liabilities, and on contingent liabilities.

97. Modified accrual accounting gives an appropriate framework for accounting liabilities (in addition, contingent liabilities must be disclosed in supplementary notes). An implementation approach can be to improve an existing cash accounting system gradually, through a more comprehensive coverage and a more transparent disclosure of transactions made through suspense accounts.

5. Caution in implementing full accrual accounting

98. Accrual accounting is standard for nongovernment activities and its importance within governments is increasing. However, caution is required before considering the implementation of a full accrual accounting system.

99. Full accrual accounting requires a comprehensive registration of assets and a sound cost measurement system. Implementing such system governmentwide needs time. Full accrual accounting would not contribute to the development of a performance-oriented approach at the agency level if depreciation is roughly estimated at the end of the year by a Treasury Department that keeps a central account. Some countries are currently implementing a chart of accounts according to full accrual accounting principles, but without having previously implemented an adequate instrument for assessing full costs and recording assets at the agency level. To a certain extent, this gives an appropriate framework for further improvements. However, it is doubtful that such an approach is more beneficial than a modified accrual accounting system that focuses on liabilities and financial assets.

100. Making accrual accounting effectively useful requires switching from an administrative accounting approach that fits budgetary accounting to a true and fair recognition of expenses. Applying only formal accounting rules would not increase transparency. Accrual accounting therefore requires the availability of many high skilled accountants both inside and outside the government.

101. Accrual accounting can improve transparency only if the public is well-informed and knowledgeable about the foregoing issues. It is far from evident that this is true of developed countries (some assign a lot of the blame to the press, including the financial press[22]) it is certainly not true of developing countries.

102. Taking these requirements into account, a gradual approach to implementing accrual accounting should be considered. It would start with the areas with a greater need for an assessment of physical assets, their uses and full costs (e.g., estimates of full costs are needed to assess user charges). In many countries, government departments use cash accounting while some autonomous agencies and agencies that perform commercial activities use accrual accounting. The government is thus better able to control the management of these agencies. Donors often request an accrual accounting system for their projects.

6. Administrative organization of an accounting system

103. Two models can be considered for the organization of accounting within the government:

- *Traditional model.* The accounts are prepared at the central level either by the Treasury or a separate Central Accounting Office. This organizational model poses a problem under full accrual accounting, since depreciation, asset value, and analysis of invoices are better assessed at the spending agency level. Even for commitment and expenditure reporting, it poses problems, since agencies often reports commitments and liabilities only when they request payment. Accounting then becomes purely procedural and formal, whereas it should be a tool for program management.

- *Consolidation model*. Spending agencies prepare their accounts for consolidation at the central level. In a computerized environment, consolidation would be facilitated by the implementation of management systems similar to those used by corporate enterprises.

104. Issues related to the organization of accounting, budget execution controls, budgetary accounting, and cash management are linked and need to be reviewed together when implementing an information system.

D. Special issues

1. Generational accounting

105. *Net worth* is the balance of assets and liabilities of the government. Some macroeconomists, following an orthodox monetarist approach, also argue that the permanent income of the country, which depends on the net worth of the government, must be taken into account for macroeconomic stabilization. However, further economic research on this subject is needed.[23]

106. Several tools have been developed to evaluate the long-term impact of current policies on the net worth of the government (e.g., the measurement of contingent liabilities[24], environmental accounting). Basically, this impact is estimated by the actuarial balance of flows of revenues, payments, depreciation of assets, etc. under different assumptions and for a particular discount rate.

107. *Generational accounting* calculates, over a long period, the present value of public consumption, taxes, debt and intergenerational transfers (i.e., pensions) for a set of growth and demographic assumptions and for a specific discount rate.[25] It takes into account government revenues and expenses on the basis of the generation to which these transactions are linked by adding up the present value of receipts less payments that a government expects to collect over the life span of the generation.[26] It is considered an important tool to describe the way the government budget affects

intergenerational distribution and an essential measure of the burden imposed by current and future budgetary policies on current and future generations. Likewise, it is an important indication of how the budget affects national savings and, thus, investment, interest rates, and growth.

108. Developers of generational accounting initially thought of it as an alternative to the traditional manner of accounting for the government's revenues and expenses. They argued that traditional approach focuses only on the very short-term, thereby creating a bias for fiscal policy, and fails to consider the future implication of government policies. They also believed that the conceptual framework underlying the traditional manner of accounting for government revenues and expenses no longer exists and that classifications are "arbitrary" and oftentimes manipulated for political reasons.[27]

109. Intergenerational equity requires that these flows be balanced to avoid creating a burden on future generations. Such calculations are made in several countries. The United States was the first OECD country to use generational accounting by presenting such accounts in its Fiscal Year 1996 Budget. Several OECD countries followed, including Germany, Italy, New Zealand, Norway, Sweden, and lately, The Netherlands.

110. Studies by the IMF and the OECD concluded that given the potential pitfalls and weaknesses of generational accounts as a measure of how the government budget affects intergenerational distribution and savings, strong caution should be exercised in their use and interpretation. In the absence of an explicit consideration of the intergenerational implications of the government consumption program, convincing evidence that the life-cycle model adequately characterizes private consumption behavior, and a fully articulated model of the general equilibrium repercussions of budgetary policy, what generational accounts are expected to indicate could be totally misleading. Generational accounting is used only as an analytical tool to illustrate the trends of government policy.[28] As Premchand notes, Generational accounts can serve at best only as analytical inputs, primarily because of the aggregate nature of the analysis and the imputations involved.[29] Moreover, to assume a significant impact of generational accounting on actual policy, politicians (and the public) around the world

would need a far longer time perspective than is typically the case. As John Meynard Keynes remarked long ago: “In the long run, we are all dead.”

111. It must be emphasized, however, that generational accounting is a very recent technique and in many respects is still undergoing enhancement. For instance, New Zealand has included education expenditures in addition to health care expenditures in its recently prepared generational accounts. In cases where a direct relationship between age groups and expenditures is hard to establish, certain expenditures are grouped as predominantly serving the young or the elderly, and use a per capita basis for distribution. Moreover, generational accounts can be enhanced by dividing more expenditure categories across generations and by incorporating a retrospective time horizon whereby taxes and benefits are calculated not only for the remaining lifetime of each generation, but also for what the generation has already paid in taxes and received in benefits in previous years. This will provide for better comparisons between generations.[30]

2. Cost measurement

a. Objectives

112. Experiences in measuring central government costs on a wide scale date from 1949, when a comprehensive exercise of performance budgeting was launched in the U.S. following the recommendations of the Hoover Commission. As discussed in chapter 3, this experience was not successful.[31] Concerning cost measurement, difficulties were due both to technical problems and to the fact that “the government was more concerned with providing a service than recovering costs."[32] A new impetus has recently been given to cost measurement in several countries, aimed at setting-up instruments to improve the performance of government services.

113. Cost information can be used in the following areas.[33]

- *Budgeting and cost control*. Information on the costs of program activities can be used as a basis to estimate future costs in preparing and reviewing

budgets. Once budgets are approved and executed, cost information serves as feedback to the next budgets;

- *Performance measurement.* Measuring costs is an integral part of measuring the efficiency and effectiveness of performance. Efficiency is measured in terms of the cost per unit of output. Effectiveness is measured by the outcome or the degree to which a predetermined objective is met (see chapter 15 for a full discussion).

- *Determining reimbursements and setting fees and prices.* Setting prices in social sectors may be a policy matter, but a good measurement of costs of services delivered is needed to assess the cost of policy choices.

- *Program evaluation*. Information on program costs provides a basis for cost-benefit considerations.

- *Market testing.* As mentioned in chapter 6, market testing requires cost comparisons among several alternatives.

b. Cost measurement systems

114. Total costs comprise: (i) direct or variable costs that can be assigned to a product, such as raw materials; and (ii) indirect or fixed costs (overhead) that are shared among several outputs. Within government departments, the problem of allocating overhead to output is particularly important, since the share of resources that cannot be assigned to a single output is generally significant. Often this allocation is arbitrary or biased or derived from a simple ratio, for example, from the direct labor cost of the output. Using arbitrary methods diminishes considerably the utility of cost measurement for management or decision making.

115. Costing methods are essential elements of management systems.[34] They aim notably at addressing problems related to the allocation of overheads. Activity-based costing (ABC) has gained broad acceptance by the manufacturing and service

industries. It is used within some governments, sometimes along with other costing methods.[35]

116. ABC systems trace individual costs back to the primary activity. This approach consists of the following steps.[36] (i) identifying activities within the organizational unit or the project; (ii) assigning resources to the activities (resource costs may be assigned to activities through direct tracing or estimation based, for instance, on surveys); (iii) identifying the outputs of the activities (the outputs can be products or services provided); and (iv) assigning activity costs to the outputs, through cost drivers. A driver may be the number of times an activity is performed in producing a specific type of output, the length of time an activity is performed, etc.

117. Costing methods provide tools for analyzing costs, but operations and activities conducted within the organization must be analyzed in detail, appropriate accounting and information systems must be set up, information must be updated regularly, etc. The allocation of costs is not an objective science and the successful introduction of activity-based costing requires the active cooperation of management and staff. Whether or not it is worth the trouble depends on country-specific considerations.

Box 30
An Example of Activity-Based Costing

The Unit Cost of a Veteran's Benefit Check Processed for the Compensation and Pension (C&P) Service by the Finance Department.

- Direct labor incurred by the Finance Department in processing 700,000 C&P checks **$700,000**
- Direct materials incurred by the Finance Department in processing 700,000 C&P checks **$20,000**
- Indirect materials are assigned to C&P based upon C&P's share of total checks processed by the Finance Department. Assume that the Finance Department processed 1,000,000 checks during the fiscal year, 700,000 of which belonged to C&P, and that total indirect expenses incurred by the Finance Department during the current fiscal year amounted to 500,000. Therefore, C&P's assignment of indirect costs is **$ 350,000**

Total expenses assigned to C&P for processing 700,000 checks $1,070,000 divided by 700,000 checks processed for C&P equals the unit cost of processing one check $1.53

In traditional federal accounting, costs are accumulated by object class categories such as salaries and benefits, office supplies, travel, and equipment. With ABC, costs are calculated by activity or process such as conducting biennial user fee reviews, or writing cost accounting policy.

Source: U.S. government, *Managerial cost accounting implementation guide*, 1998.

c. Relevance of cost measurement

118. Currently, only a few developed countries are implementing cost measurement on a large scale. In New Zealand, output budgeting implies a direct relationship between cost measurement and budgeting, but developing cost measurement systems needs time. In the U.S., the relationship between cost measurement and budgeting is indirect. Cost measurement is seen as a tool for improving performance, helping budget decision making, and giving feedback, but appropriations for the running costs of departments are cash based.

119. In developing countries and transition economies, implementing cost measurement should be considered only for special programs or agencies, notably agencies that recover costs from the users and development projects of a significant size (e.g., a large agricultural development project). However, to determine the extent

on which cost measurement can be implemented within a government, the cost effectiveness of carrying out this exercise must be assessed.

3. Capital charges

120. To account for the full costs of capital assets used in the provision of goods and services, it is necessary to take into account both (i) depreciation; and (ii) the remuneration of capital employed. Only a handful of countries have introduced a capital charge, explicitly shown as an expenditure item in the budget of departments or agencies.[37] This capital charge is calculated by applying a charge rate to the departmental or agency assets.

121. Thus, in New Zealand, a charge for the use of capital was introduced in 1991. A charge rate of 13 percent was applied to the assets of agencies and departments, the payment of the charges being imputed to their budget (later a number of departments negotiated particular rates with the Treasury).[38]

122. Introducing a capital charge can give incentives to spending agencies to use their capital more efficiently and can improve cost estimates, which are needed for establishing cost recovery. However, if applied without any change in management, there is a risk that capital charge would just be a formal procedure, compensated by an equivalent increase in budget appropriation. Its implementation requires appropriate systems for registering assets, and clearly delineating the organization responsible for asset acquisition and disposal. The capital charge needs to be integrated within appropriate cost management and cost measurement systems. It is only one of the many elements needed to improve management and cost consciousness.

123. In theory, the capital charge could be used as an instrument for allocating resources, for example, for distributing grants among local governments or among spending units that perform the same kind of activities. However, to assume that inherently political choices are amenable to “technical” solutions is a technocratic illusion that was dispelled in the 1930’s.[39]

[1] A pioneer operation to prepare a modified accrual accounting framework was carried out in Africa by the UDEAC in the 1970s.
[2] See Premchand (1993), page 267.
[3] See, for example, Peter Dean, Government accounting in developing countries in Naomi Caiden, *Public budgeting and financial administration,* Jai Press, 1996.
[4] IFAC Financial reporting by national governments, 1991. IFAC (International Federation of Accountants) is an association of professional accounting bodies in 84 countries, which seeks to recommend unified standards of accounting. Its Public Sector Committee (PSC) deals with accounting standards for government and public entities.
[5] "Statistics based on payment are to be preferred for total revenue and expenditure, measuring aggregate impact on the monetary accounts and the rest of the economy. Payments data represent the best ready approximation of the flows of funds and resources; they avoid problems of valuing resource flows; they correspond most closely with other financial statistics; and they constitute the basis on which most governments keep their accounts", IMF *Manual on Government Finance Statistics (GFS*), 1986, page 31; as noted in chapter 2, GFS is in the process of being modified incorporate accrual accounting elements).
[6] Besides this, payments during the complementary period are reported as movements of cash balances of the year at which they occur and debit of a "previous year budgetary expenditures" account.
[7] Or more simply accrual accounting. In this volume, the adjective full is added to avoid confusion with the terms modified accrual accounting or expenditure (at the verification stage) accounting which are often confused with accrual accounting" proper.
[8] IFAC (1991),
[9] GAAP are the principles defined by the accountants' professional organizations (see reference).
[10] In the U.S., the budget is mainly cash-based. However, appropriations for government lending are on an accrual basis, and for some other programs they are obligation-based. Full accrual accounting is made for operating assets and liabilities, but not for "stewardship" resources (military assets, national parks, etc.), for which separate statements on a full accrual basis are prepared.
[11] The Australian system, which until 1998 was centralizing each transaction, is in the process of adopting a consolidated approach for accounting ("AIMS will not record agency payments and receipts transaction data. Agencies will provide a summary of actual monthly data to the central system for consolidated reporting purposes." Presentation of the AIMS system, Department of Finance and Administration. Australia. 1998).
[12] Concerning countries that accumulate tax arrears that will never be collected, the SNA manual states: It may be preferable for analytic and policy purposes to ignore unpaid taxes liabilities and confine the measurement of taxes within the System to those actually paid (SNA. 1993, page 192).
[13] See Glenn Ross and John J Kelly, From cash to accrual: The Canadian experience in IFAC *Perspectives on accrual accounting*, 1997.
[14] FASAB Accounting for liabilities of the federal government, 1995.
[15] Many of these devices were employed, or alleged to be employed, by some member states of the European Union before 1998 to meet the fiscal deficit requirements for a mission to the common European currency, the euro.
[16] E.g., military equipment is considered as a consumption in the SNA and as an asset in New Zealand. The U.S. has adopted an intermediate position (see above).
[17] Not to be confused with the operational deficit defined in chapter 4.D.1.
[18] For a discussion of the advantages of the operating deficit, see Builter, Measurement of the public sector deficit and its Implications for policy evaluation and design, in Mario Blejet and Adrienne Cheasty, *How to measure the fiscal deficit*", IMF, 1993.
[19] "[The scope for creative accounting] is greatest where there is trading, accrual accounting and ambiguity in the rules. It is least with cash accounting and clear rules. With commercial style accounts. there are further pressures which reflect the much greater creative accounting possibilities of the private sector, (Liekerman).
[20] " According to certain critics of accrual budgeting, even in a country such as the United Kingdom with a tradition of budget discipline and plenty of skilled accountants, accrual budgeting may weaken compliance and increase red tape Resource Accounting Budgeting (RAB) [i.e. accrual-budgeting] may weaken control of public expenditure; attention is likely to be diverted from a manageable concern with revenue raised and with the money spent in a particular year to a more speculative concern with outputs and results achieved over a longer period, and with the full costs and benefits of operations, over all of which there is scope for

considerable disagreement. The system tips the balance more in favor of expenditure advocates than watchdogs, and constitutes an inflationary pressure. RAB will be a costly venture. RAB will encourage further centralization in an already highly centralized state. Central government will require more central budget staff. RAB may erode the process of audit, by turning attention away from traditional auditing concerns, like compliance with spending limits", George Jones, London School of Economics, "Resource accounting and budgeting: another false Trail?" in IFAC *Perspectives on accrual accounting*, 1996.

[21] In France, for exmaple, it is compulsory to include in local government budgets depreciation allowances and other reserves. This, together with the golden rule limit, is seen as an instrument to keep the local government budget under control (see Jean-Francois Copé and François Werner, Finances locales, *Economica*, 1997).

[22] "Why does not the *Wall Street Journal* run an article when the Consolidated Financial Statement report comes out, when they [the press] do cover it [audit report], the political writers cover it instead of business writer", Edwards, Accounting systems in newly-independent nations", Internal consortium on government financial management, February 1998.

[23] This issue is discussed in William Buiter, Measurement of the pubic sector deficit and its implication for policy design; Mario I. Blejer and Adrienne Cheasty, The deficit as an indicator of government solvency: changes in public sector net worth" in Blejer and Cheasty.

[24] See Christopher M. Towe in How to measure the fiscal deficit", Blejer and Cheasty.

[25] See IMF Generational accounts. Aggregate savings and intergenerational distribution, July 1996.

[26] A generation is defined as persons born in the same year, and differentiated into male and female. This differentiation recognizes the different lifetime patterns of tax payments and benefit receipts for the two groups. For more discussion, see Generational accounts, Aggregate savings and Intergenerational distribution, Willem H. Buiter, July 1996.

[27] Refer to pp. 14-15 of Budgeting for the future, OECD working paper vol. 5 for a more detailed discussion.

[28] See, for example, Robert Hagemann and C. John, The fiscal stance in Sweden: A generational accounting perspective, IMF, 1995.

[29] Premchand, *Effective government accounting*, 1995; An analysis of the conditions of validity of the generational accounting methodology can be found in IMF Generational accounts. aggregate savings and intergenerational distribution, July 1996.

[30] Refer to pp. 16-18 of "Budgeting for the future for further discussion of more issues.

[31] A presentation of this performance budgeting experience may be found in GAO, Performance budgeting: past initiatives offer insight for GPRA implementation and in Premchand (1983).

[32] Premchand, Effective government accounting, IMF, 1993.

[33] Drawn in large part from Office of Management and Budget, Managerial Cost Accounting Concepts and Standards for the federal government, Statement of recommended accounting standards number 4, 1995.

[34] Issues related to cost management systems and their application within the Government are reviewed in Premchand, 1993.

[35] As in the U.S. and New Zealand.

[36] From OMB, op. cit.

[37] As in New Zealand for all departments, and United Kingdom for trading units and the National Health Service.

[38] Graham C. Scott, op cit.

[39] This is illustrated by the public funding of New Zealand universities, where much effort has been devoted to the development of capital charging without so far securing implementation. In reality, what has held up the process is not a technical issue, but the allocation of funds among universities. The UK reader might reflect on what would happen if a proposed capital charge in this country were to make one particular university a major gainer at the expense of another major university, David Heald and Alison Dowdall, Capital charging as an efficiency mechanism in central government, a paper presented to the Public Sector Management Conference for the Next Century, Manchester, 1997.