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**INTOSAI
Public Debt Working Group**

**Guidance for Conducting a Public Debt Audit -
The Use of Substantive Tests in Financial Audits**

November 2007

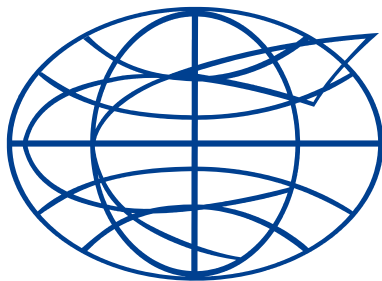
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Guidance for Conducting
a Public Debt Audit
- The Use of Substantive
Test in Financial Audits

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Introduction

Under the terms of reference laid down by the Governing Board of INTOSAI in 1992, the Public Debt Committee (PDC) was given the task of publishing guidelines and other information for use by Supreme Audit Institutions (SAIs) to encourage the proper reporting and sound management of public debt. In its initial years the PDC discharged this responsibility primarily by publishing guides on the definition, disclosure and reporting of public debt, a guide to conduct audits of internal controls of public debt operations, and papers on government's financial commitments, contingencies and fiscal risks.¹

The PDC formed a partnership in 2002 with the INTOSAI Development Initiative (IDI) to develop Public Debt Auditing (PDA) capacity within INTOSAI members and provide trainers to build PDA capacity. This guide seeks to increase PDA capacity by providing a general framework that can be used to approach the audit of public debt and specific advice on how to conduct substantive audit tests.²

This guide is based on documents discussed at PDC meetings which were prepared by UK National Audit Office and US Government Accountability Office. This guide incorporates feedback received from PDC members, public debt experts and auditors, and draws on INTOSAI Auditing Standards, the IMF-World Bank Guidelines for Public Debt Management, and previous guidance issued by the PDC.³

This guide is designed to be relevant and accessible to a wide audience. Information is presented in general terms to identify concepts and issues that auditors can consider when examining public debt. In this way the

¹ PDC guides and studies are available in <http://www.intosaiadc.org.mx/>.

² Audit procedures for testing internal control are discussed in the PDC document, *Guidance for Planning and Conducting an Audit of Internal Controls of Public Debt* (2000).

³ International Monetary Fund-World Bank *Guidelines for Public Debt Management* (2003) is available in <http://www.imf.org/external/np/mfd/pdebt/2003/eng/index.htm>.

guide will facilitate the development of relevant and effective audit processes by SAIs, taking into account factors present within national environments. To ensure proper consideration of the requirements placed on auditors, the guide is organized around INTOSAI Field Standard Requirements. Each Field Standard is considered in turn to provide a structured approach to the complete audit process. Within this format the analysis concentrates on issues specific to public debt - this preserves the document's focus and prevents undue commentary on issues that apply equally to all financial audits.

The document's focus is maintained by making three key assumptions about the guide's coverage and scope, namely, the guide addresses the audit of wholesale (not retail) direct public debt instruments, the guide assumes the conduct of a financial audit with the aim of providing an opinion on a set of financial statements (i.e. this is not a performance audit guide), and the guide does not include statistical sampling procedures. The topics of retail debt, performance debt audits and statistical procedures are important in their own right and may be subject of separate guides in the future. While there will inevitably be read-across between the different aspects of PDA, there are specific considerations and issues relevant to both retail debt and performance audit that are outside the scope of this present document.

After the presentation of INTOSAI field audit standards, this guide discusses specific substantive audit tests, presents analytical procedures and substantive audit tests for derivatives.

1. Elements of Public Debt Management

This section of the guide provides the reader with a brief introduction to the subject of public debt management to facilitate a smooth introduction to the audit related sections that follow.⁴ The themes are presented by addressing the following key questions.

- What is public debt management?
- How is public debt management facilitated?
- What instruments are used to raise public debt?
- What accountability arrangements exist?

1.1 What is public debt management?

Public debt management is the process of establishing and executing a strategy for managing public debt in order to raise the required amount of funding at the desired risk and cost levels. It should encompass the main financial obligations over which governments, central, regional and local, exercises control. Public debt management is important for a number of reasons:

- to ensure that the level and rate of growth of public debt is sustainable in a wide range of circumstances;
- to lower public borrowing costs over the long term, thus reducing the impact of deficit financing and contributing to debt and fiscal sustainability;
- to avoid economic crises because of poorly structured debt;

⁴ The paragraphs that follow present information provided in the IMF-World Bank Guidelines for Public Debt Management. A much fuller description of issues relating to public debt management, together with country case studies, can be found in the Guidelines themselves.

- the public debt portfolio is often the largest financial portfolio in the country and can have a far-reaching impact on financial stability – consequently, effective management is essential.

1.2 How is public debt management facilitated?

There is a range of measures that governments may introduce to help ensure the effective management of public debt. This includes the development of a legal framework to provide the overall parameters for public debt management activity, for example, in respect of the authority to issue debt and the types of instruments that can be used. The legal framework manifests itself through organizational arrangements. These arrangements should be clear and transparent. The allocation of responsibilities between a country's Finance Ministry, Central Bank, or a separate Debt Management Agency, for public debt management policy advice, and for undertaking primary public debt issues, secondary market operations, depository facilities, and clearing and settlement arrangements for trade in public debt instruments should be publicly disclosed, together with details of public debt management objectives and the measures of cost and risk to be adopted.

IMF-World Bank Debt Management Guidelines identify further desirable characteristics of effective public debt management:

- **Co-ordination with monetary and fiscal policies** – public debt managers, fiscal policy advisors, and central bankers should share an understanding of each other's objectives given the interdependencies between their different policy instruments. Where the level of financial development allows, there should be a separation of public debt management and monetary policy objectives and accountabilities.
- **Availability of information** – the public should have access to information concerning the process for formulating and reporting public debt management policies, details on the stock and composition of public debt and financial assets – including their currency, maturity and interest rate structure.
- **Public debt management strategy** – there should be a public debt management strategy in place that specifies the objectives

of public debt management and takes account of inherent risks. This should be complemented by cost-effective cash management policies to enable the authorities to meet with a high degree of certainty their financial obligations as they fall due.

- **Risk management framework** – to assess risk, public debt managers should regularly conduct stress tests of the debt portfolio on the basis of the economic and financial shocks to which the government – and the country more generally – are potentially exposed. A framework should be developed to enable public debt managers to identify and manage the trade offs between expected cost and risk in the public debt portfolio. Public debt managers should consider the impact that contingent liabilities have on the government’s financial position, including its overall liquidity, when making borrowing decisions.
- **Development and maintenance of an efficient market for public debt instruments** – in order to minimize cost and risk over the medium to long run, public debt managers should ensure their policies and operations are consistent with the development of an efficient market for public debt instruments. For example, the government should strive to achieve a broad investor base for its domestic and foreign public debt instruments, with due regard to cost and risk, and should treat investors equitably. Public debt management operations in the primary market should be transparent and predictable, and governments and central banks should promote the development of resilient secondary markets that can function effectively under a wide range of market conditions.

1.3 What instruments are used to raise public debt?

At its broadest level, public debt consists of all the public sector liabilities, including future and contingent liabilities⁵. For the purpose of this guide public debt is comprised typically of instruments such as:

⁵ See PDC “Guidance on Definition and Disclosure of Public Debt” (1995) for more details on definition of public debt.

- **Long and medium term securities** - These are instruments that provide the holder with regular income (the “coupon”) and return the principal value on redemption. They can be issued in a variety of forms of which the most common are: (i) conventional – which entitle the holder to a fixed nominal coupon and (ii) index linked – where the coupon payments are linked to an official index. Securities typically make up a large proportion of the overall debt portfolio and governments issue them with a range of different maturities and coupon rates to facilitate effective management of public debt in accordance with the overall strategy and objectives. Securities maturities vary considerably, but usually are for at least one year, while anything over 15 years is considered long term.
- **Short term instruments** - In addition, governments also issue short term instruments with maturities of less than one year. Usually issued at a discount to their face value and redeemed at par, these instruments – for example Treasury bills in the US and UK - are essentially used to help governments manage short term cash flows.
- **Derivatives** – Public debt managers often use financial instruments known as derivatives to change the characteristics of the public debt portfolio. The most common are interest or currency swaps, forwards and caps.
- **Loans and deposits** - Governments may borrow funds in the form of loans or cash deposits from a variety of sources, both as part of cash management activities or longer term public debt management. Borrowing may be internal, for example from the country’s central bank, or it may be external, for example through a supranational organization such as the International Monetary Fund.

Nevertheless the auditor may find that the present guidance can be applied to other types of public liabilities, such as state guarantees and insurances, with minor modifications.

This guidance is focused on audits of the public debt management agency. When this is not the case, for instance where public debt is managed by several public entities, the auditor should take care to ensure that all of them are properly audited and the relations between them taken in due consideration. For instance, the government financial statements should include the all the liabilities incurred by all those public entities and sound consolidation procedures should have been applied.

1.4 What accountability arrangements exist?

Accountability arrangements vary between countries to reflect the legal framework and other local circumstances. In the context of this document, it is worth noting two important aspects of accountability as described below:

- The publication of financial statements – governments may publish financial statements relating to their public debt management activities. These activities may be presented in accounts designed specifically to provide information on public debt management, or relevant information may be provided on a more piecemeal basis across a range of publications.
- External audit of public debt management activities – IMF/ World Bank guidelines recognize the important role to be played by external auditors and state that public debt management activities should be audited annually by external auditors.

Given the above, the sections that follow are designed to assist SAI's auditors when taking forward the audit of financial statements relating to public debt management activities.

2. Application of INTOSAI Auditing Standards to Public Debt Audits

To ensure SAIs provide proper consideration of the audit requirements, this section of the guide introduces the following INTOSAI field standards in the context of a public debt audit.

2.1 Planning the Audit of Public Debt

INTOSAI field standard requirement

The auditor should plan the audit in a manner which ensure that an audit of high quality is carried out in an economic, efficient and effective way and in a timely manner

- Identify important aspect of the environment in which the audited entity operates
- Develop an understanding of the accountability relationships
- Consider the form, content and users of audit opinions, conclusions or reports
- Specify the audit objectives and the tests necessary to meet them
- Identify key management systems and controls and carry out a preliminary assessment to identify both their strengths and weaknesses
- Determine the materiality of matters to be considered
- Review the internal audit of the audited entity and its work program

- Assess the extent of reliance that might be placed on other auditors, for example, internal audit
- Determine the most effective audit approach
- Provide for a review to determine whether appropriate action has been taken on previously reported audit findings and recommendations
- Provide for appropriate documentation for the audit plan and for the proposed fieldwork

Auditors plan their work so as to perform the audit in an effective manner and to develop and document an overall audit plan, describing the expected scope and conduct of the audit. Auditors develop and document the nature, timing and extent of the planned audit procedures required to implement the overall audit plan. Auditors also review the audit work planned and, if necessary, revise it during the course of the audit.

This section provides SAI's auditors with supplementary guidance on the matters to consider when applying the INTOSAI field standard on planning in an audit of public debt management activities.

2.1.1 Identify important aspects of the environment

Auditors should identify important aspects of the environment in which the audited entity (Ministry of Finance, debt management agency, or other public entities responsible for managing the public debt being audited) operates sufficient to enable them to understand the events, transactions and practices that may have an effect on the way in which public debt management activities are conducted and reported.

Understanding the environment in which the audited entity operates assists auditors in, for example, assessing risks of error, in determining the nature, timing and extent of audit procedures, evaluating audit evidence and in considering the consistency and reliability of the financial statements as a whole when completing the audit.

In the audit of public debt management activities this can involve obtaining an understanding of the public debt management arrangements within a country, the general economic factors which may influence the public debt management practices, and knowledge of the types of financial instruments and markets used in borrowing.

2.1.1.1 Understanding of the public debt management arrangements

The auditor should gain sufficient understanding of public debt management arrangements to develop an effective audit approach. The auditor regularly reviews this understanding to ensure that the impact of significant changes and developments are reflected properly during the current and future audits.

In obtaining an understanding of the public debt management arrangements auditors may consider how public debt management activities comply with the Guidelines for Public Debt Management issued by the IMF/World Bank. Assessing the public debt management arrangement against the criteria set out within the Guidelines can provide the auditor with a structured view of:

- the objectives and coordination of public debt management;
- the transparency of and accountability for public debt management activities;
- the institutional framework for public debt management;
- the public debt management strategy;
- the risk management framework for public debt management activities;
- the role of public debt managers in promoting efficient markets in public debt instruments.

The following tables provide checklists of issues drawn from the IMF/World Bank Guidelines for Public Debt Management which auditors may wish to consider when developing their understanding of public debt management. They were compiled on the basis of a questionnaire sent to public debt managers in many countries in order to identify the key features of public debt management operations. The tables are not meant to be a comprehensive list of factors that should be present in all public debt management arrangements. The lists are illustrative and not intended to encompass every characteristic that might be present in INTOSAI countries.⁶

⁶ *Guidelines for Public Debt Management: Accompanying Document* (IMF & World Bank, 2002).

Table 1a: Characteristics of Public Debt Management Activities – Institutional Arrangements

<u>Common Institutional Arrangements</u>	Is this feature present in public debt management activities audited by SAI? (Yes or No)
An annual borrowing authorization	
A public debt ceiling limit	
Domestic and foreign currency public debt programs managed together	
Separate public debt management agency	
Separate front and back offices	
Separate Risk Management Unit (middle office)	
Formal guidelines for managing market and credit risk	
Annual public debt management reports	
Regular external peer reviews of public debt management activities	
Annual audits of public debt management transactions	
Code-of-Conduct and conflict of interest guidelines for public debt management staff	
Business recovery procedures in place	
Source: <i>Guidelines for Public Debt Management: Accompanying Document</i> (IMF & World Bank, 2002).	

Table 1b: Characteristics of Public Debt Management Activities – Features of Primary and Secondary Markets

<u>Features of Primary Markets for Public Debt Instruments</u>	Is this feature present in public debt management activities audited by SAI? (Yes or No)
Auctions used to issue domestic public debt	
Fixed-price syndicates used to issue domestic public debt	
Benchmark issues for domestic market	
Pre-announced auction schedule	
Central bank participates in the primary market	
Primary dealer system	
Universal access to auctions	
Limits of foreign participation	
Collective action clause, domestic issues	
Collective action clause, external issues	
<u>Features of Secondary Markets for Public Debt Instruments</u>	
Over-the-counter (OTC) market	
Exchange-traded market mechanism	
Sound clearing and settlement systems	
Limits on foreign participation	
Source: <i>Guidelines for Public Debt Management: Accompanying Document</i> (IMF & World Bank, 2002).	

Table 1c: Characteristics of Public Debt Management Activities – Portfolio Management Arrangements and Benchmark Portfolios

<u>Portfolio Management Arrangements</u>	Is this feature present in public debt management activities audited by SAI? (Yes or No)
Stress testing of market risk exposures	
Trading conducted to profit from expected movements in interest or exchange rates	
Cash balances managed separately from public debt	
Foreign currency borrowing integrated with foreign exchange reserves management	
Specialized management information systems in place for risk management	
<u>Features on Benchmark Portfolios</u>	
Duration	
Term-to-maturity	
Fixed-floating ratio	
Currency composition	
Public disclosure of benchmarks	
Use of derivatives	
Source: <i>Guidelines for Public Debt Management: Accompanying Document</i> (IMF & World Bank, 2002).	

2.1.1.2 General economic factors

The auditor gains sufficient understanding of the general economic factors affecting public debt management activities to develop an effective audit approach. General economic factors are likely to have an influence on the nature and extent of public debt management activities. For example, when interest rates appear likely to rise, a debtor may try to fix the effective level of interest rates on its floating rate borrowings through the use of interest rate swaps, forward rate agreements or caps. General economic factors that may be relevant include:

- the general level of domestic economic activity;
- economic conditions in countries in which foreign debt is either held or from which loans have been made;
- the level of interest rates, and availability of financing – (i) may impact on liability valuation (ii) market liquidity may have implications for the type and cost of public debt instruments available;
- inflation and exchange rates and controls – (i) may affect valuation of key balance sheet items (ii) may impact on decisions about the type of public debt instruments to be used – for example Fixed or Index-linked Bonds, domestic or foreign currency (iii) may have material impact on the Profit and Loss Statement (iv) any revaluation/devaluation of foreign currency liabilities/assets may impact on the value of assets and liabilities in the post-balance sheet period;
- the characteristics of the markets that are relevant to the instruments used by the debtor, including the liquidity or volatility of those markets – (i) condition and credibility of domestic and international capital markets (ii) condition and credibility of domestic and international derivatives markets;
- debtor cash flows – (i) ability to meet interest repayments as they fall due (ii) decisions about early redemption of debt (iii) taxation policy and receipts – higher levels of taxation may lead to lower public borrowing, government borrowing itself may be part of a policy to ‘smooth’ taxation over time.

2.1.1.3 Understanding of transactions and practices

Auditors obtain appropriate skills or knowledge to plan and perform an audit of public debt management activities, including an understanding of public debt management transactions and practices. Special skills and knowledge include obtaining an understanding of:

- the operating characteristics and risk profile of the financial markets in which the public debt managers operate;
- the financial instruments used by public debt managers and their characteristics;
- the audited entity's information systems. This may require auditors to have special skills or knowledge about computer applications when significant information about financial instruments is transmitted, processed, maintained or accessed electronically;
- the methods of valuation of the financial instruments. This can be particularly important where the audited entity is using derivatives. Derivatives may have complex features that require auditors to have special knowledge to evaluate their measurement, recognition and disclosure; and
- the requirements of relevant legislation, regulations and applicable accounting standards for financial statement assertions related to financial instruments.

Members of the SAI's audit team may have the necessary skill and knowledge to plan and perform auditing procedures related to financial instruments. Alternatively, the SAI may decide to seek the assistance of an expert, with the necessary skills or knowledge to plan and perform the auditing procedures, especially when the derivatives are involved.

2.1.2. Specify the audit objectives and tests

Auditors obtain competent, relevant and reasonable evidence on which to base their conclusions. In designing the audit program, auditors specify the objectives they are seeking to address. The assertions that auditors may seek to test in a financial audit of public debt management activities are considered in the section on audit evidence.

2.1.3 Identify key management systems and controls

Auditors obtain and document an understanding of the accounting system and the key management systems and controls sufficient for them to determine their audit approach. For an audit of public debt management activities where there are likely to be complex processes, transactions and accounting issues, the auditor considers key aspects of the internal control system, including:

- **Control Environment:** the control environment is the foundation of internal controls by virtue of its influence on the conduct of public debt management personnel. Senior public debt managers are responsible for establishing and nurturing a control environment that promotes – (i) ethical values, (ii) human resource policies that support public debt management objectives, (iii) an organizational structure with clear lines of responsibility (iv) communication and computer-based information systems that incorporate adequate security controls.
- **Risk Assessment:** the process of identifying circumstances and events that can prevent senior management from meeting public debt management objectives and measuring the probability of their occurrence. Operational risks arise in the normal course of managing public debt transactions. Fraud risks arise from intentional misdeeds to gain personal benefit.
- **Control Activities:** the policies and procedures that help ensure that the government’s directives are carried out and actions are taken to achieve the public debt objectives.
- **Information and Communication:** in order to achieve public debt goals, policymakers and public debt managers need to rely on an information system that captures and disseminates relevant and reliable public debt information.
- **Monitoring:** the process through which developments in the external environment, as well as the internal controls over public debt, are monitored to help public debt managers respond promptly and effectively to change. This could be facilitated through ongoing public debt operations or through separate audits.

The INTOSAI Public Debt Committee has issued more detailed guidance on Planning and Conducting an Audit of Internal Controls of Public Debt (May 2000).⁷

2.1.4 Determine the materiality

Auditors consider materiality and its relationship with audit risk when conducting an audit. Auditors also consider materiality when determining the nature, timing and extent of audit procedures. In auditing public debt management activities, auditors should be aware that movements in balance sheet values may not have a direct correlation to those in the revenue statement. Auditors may therefore choose to regard items in the balance sheet and those in the revenue statement as two distinct classes of accounting entries for the purpose of determining appropriate levels of materiality.

The auditor also considers derivatives, guarantees and other ‘off balance sheet’ items in setting materiality. This requires an understanding of the nature of each off balance sheet item (or class of items) and its impact, or potential impact, on the audited entity’s financial statements.

2.1.5 Review and assess reliance on the internal audit

Auditors obtain an understanding of internal audit activities to help plan the audit and develop an effective audit approach. The knowledge and skills required to audit public debt management activities can be quite different from those needed to audit other aspects of the public sector activities. Auditors therefore consider the extent to which any internal audit unit has the knowledge and skill to cover public debt management activities.

In some public entities, internal audit forms an essential part of the risk control function operated by senior management. The work performed by internal audit may assist the auditors in understanding the accounting systems and internal controls and therefore assessing control risk. Areas where the work performed by internal audit may be particularly relevant are:

- reviewing the appropriateness of policies and procedures and management’s compliance with them;

⁷ Available in the PDC website, <http://www.intosaipdc.org.mx/>.

- reviewing the effectiveness of control procedures;
- reviewing the accounting systems used to process public debt transactions;
- reviewing other operational systems relevant to public debt management activities;
- ensuring that objectives for public debt management are fully understood across the audited entity, particularly where the risk exposures are most likely to arise;
- assessing whether new risks relating to financial instruments are being identified, assessed and managed; and
- conducting regular reviews to provide management with assurance that public debt management activities are being properly controlled.

2.1.6 Determine the most efficient and effective audit approach

Auditors engaged in the examination of public debt management activities would determine the audit approach as they would do for any other audit by having regard to the materiality and risk associated with the audit objectives and financial statements in determining the most appropriate audit procedures and sources of assurance.

2.1.7 Review previously audit findings and recommendations

In determining key audit risks during planning the auditor determines whether appropriate action has been taken on previously reported audit findings and recommendations.

2.1.8 Provide for appropriate documentation

The auditor develops and documents an overall audit plan describing the expected scope and conduct of the audit. The precise form and content of the overall audit plan will vary depending upon the nature and scale of public debt management activities. Important matters to consider during the planning stage of the audit include:

- the public debt management framework and operating environment;
- the legal and regulatory framework;

- an assessment of materiality;
- consideration of complex/significant issues;
- an assessment of the extent of reliance on others auditors;
- analytical procedures;
- documentation of systems and identification of key controls;
- identification and assessment of risks.

2.2. Evaluating Internal Control in Public Debt Management

INTOSAI field standard requirement

The auditor, in determining the extent and scope of the audit, should study and evaluate the reliability of internal control.

1. Evaluate the risk environment
2. Review and evaluate the entity's information systems
3. Establish the segregation of duties within the entity

Auditor's planning procedures will provide him/her with an understanding of the institutional framework surrounding public debt management activities and within this, knowledge of the key operations. Auditors use this knowledge to evaluate the audited entity's risk environment and the system of internal control.

2.2.1 Risk environment evaluation

Auditors evaluate the risk environment. In their evaluation of the risk environment auditors will consider a variety of factors including:

- the legal framework governing public debt management activities and any remit laid down by the government for those responsible for public debt management operations;
- the institutional framework for establishing operational plans and ensuring effective oversight of public debt management activities;
- the experience and knowledge of public debt managers and those charged with oversight;

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- any unusual pressures faced by public debt managers including market pressures which might lead to a breach of borrowing remit;
 - the complexity of the audited entity's information systems or changes to those systems;
 - the complexity of the public debt management portfolio or a decision to employ new types of public debt instrument.

Public debt management is complex and public debt managers may not take proper account of all risks and exposures. For example, the choice of instruments used by public debt managers to raise funds will impact on the risks to which the audited entity is exposed. The use of complex derivative instruments is likely to increase exposure to risk of financial loss than the use of plain vanilla instruments such as bonds. For example, debt instruments with embedded put options can increase uncertainty to the issuer, by effectively shortening portfolio duration, and creating greater exposure to market/rollover risk.

The risks that the auditor will also consider when evaluating the risk environment of public debt management activities will also include the risks associated with the management of the public debt portfolio, such as:

- **Credit risk** – the risk that a counterparty of the audited entity will be unable to meet its obligations. Credit risk can take a number of forms, for example: (i) delivery or settlement risk – where the public debt manager settles its side of the transaction but the counterparty fails to deliver (ii) transactions in over-the-counter derivatives or options – where the counterparty cannot pay what is due when the contract matures;
- **Liquidity risk** – the risk that public debt managers are unable to generate sufficient demand for public debt instruments to raise the required levels of borrowing. For example, because of a weak secondary market in public debt instruments;
- **Interest rate risk** – the exposure of the public debt portfolio to adverse movements in interest rates. For example, public debt managers may borrow short-term to fund a long-term program of expenditure in anticipation of a fall in interest rates.

If interest rates actually rise, the public entity faces increased financing costs when the time comes to roll-over its borrowing. Borrowing longer term would introduce greater certainty to financing costs, but would reduce the ability to take advantage of any fall in interest rates;

- **Currency risk** – the risk of loss from an adverse movement in exchange rates between the time of issuance and the time of repaying. For example, the issuance of large amounts of foreign currency denominated or foreign exchange indexed public debt securities can leave debtor vulnerable to volatile debt service costs;
- **Market risk** – the exposure that arises as a consequence of movements in the market price of assets which can be traded in a defined market. Where public debt managers are engaged in trading activities or using derivatives for speculative purposes, the value of public assets can be effected significantly by movements in market price;
- **Rollover risk** – the risk associated with the redemption and renewal of public debt. This can relate to a number of factors, for example: (i) the maturity profile of the debt - where public debt managers do not manage prudently the trade off between short term and long term public debt (ii) the attractiveness of public debt instruments to investors (iii) matching the debtor's requirement to redeem public debt with the ability to pay, for example through planned cash receipts or through new borrowing;
- **Operational risks**

In evaluating the risk environment the auditor also assesses the mitigating controls employed by public debt managers. Two aspects of internal control that are essential to the proper conduct of public debt management activities are controls around IT systems and the segregation of duties. These issues are considered in separate sections below. In addition to these key areas, additional controls that might be in place include:

- management checks to ensure that borrowing instruments have been used in accordance with the agreed policies, guidelines and authority limits;

-
- recording of decision making processes, to demonstrate that the reasons behind entering into selected transactions are clearly understandable;
 - arrangements to identify approved counterparties and set credit limits and to subject these to regular review; and checks to ensure that transactions were undertaken with approved counterparties and within approved limits;
 - seeking counterparty confirmations to obtain third party verification of transaction details – matching and reconciling counterparty confirmations received with internal records;
 - periodic deal testing by internal audit to confirm transaction details and verify compliance with public debt management strategy;
 - the existence of delegated authorities and limits for key staff, for example dealers;
 - checks to ensure that transactions have been properly recorded and are entered completely and accurately in the accounting records, and correctly processed in any subsidiary ledger through to the financial statements;
 - the existence and completion of control checklists to ensure that security auctions comply with agreed procedures;
 - the existence of comprehensive, up to date, procedures manual for key operations – these help to ensure that staff have an authoritative guidance source when required and can help reduce reliance on key staff;
 - the performance and documentation of key reconciliations – for example, monthly bank reconciliations, daily reconciliations between dealers’ records and the trading system, and between the trading system and the accounting system;
 - periodic testing of disaster recovery arrangements to help ensure the durability of public debt management activity in a period of emergency.

2.2.2 Information systems

Auditors review and evaluate the audited entity's information systems, including the accounting system. To achieve this understanding, auditors obtain knowledge of the design of the accounting system, changes to that system and its operation. The relative complexity of the instruments are important determinants of the necessary level of sophistication of both the audited entity's information systems (including the accounting system) and control procedures.

As a result of the large number of transactions undertaken, their frequent complexity and the need for swift and accurate information processing and retrieval, public debt management systems are invariably computer based. The issues around the audit of public debt management computer systems are essentially the same as with the audit of any other computer system. However, there are a number of characteristics associated with public debt management that could increase the risk associated with computer systems. These are considered in Table 2 below.

Table 2: Information Systems Risks

Issue	Risk
Transaction volumes are usually large	Users may find it difficult to detect and correct processing errors Programming errors or other systemic errors in hardware or software, while possibly having a small financial effect on each transaction, may impact on a large number of transactions and have a significant financial impact overall Without adequate contingency arrangements a breakdown in systems may be difficult to recover from
Computer processes are often complex	Computer audit trails may be difficult to follow
Assets are often dematerialized into electronic format, and therefore electronic data may have significant intrinsic value	An increased risk of fraud using computer systems
Significant reliance is placed on segregation of duties as a control and system access rights are normally a key aspect of enforcing this.	Weaknesses in the allocation of system access rights, potentially have a great significance
A large variety of systems are often used for processing different financial products. For example, different systems might be used for recording trading activity, administering securities auctions, undertaking cash management, producing financial statements, and generating management information	Increased possibility of error through system interface problems
Complex computer spreadsheets and models, with less formalized procedures and controls over development and operation, are often used in public debt management for pricing, portfolio management and revaluations.	There is a greater potential for program error in systems developed and operated in this way

The review and evaluation of computer systems is likely to be most effective if performed by audit staff with relevant experience and expertise in this type of work. Before starting the review, the SAI might consider whether appropriately trained staff is available or should be brought in to undertake this work.

2.2.3 Segregation of duties

Adequate separation of duties within public debt management activities is essential to minimize the chances of financial losses and damage to the reputation of public debt managers through erroneous or fraudulent activity. It is generally recognized that well-run public debt management activities are typified by a recognized pattern of segregation of duties. This is described neatly in the following extract from IMF-World Bank Public Debt Guidelines.

“Operational responsibility for debt management is generally separated into front and back offices with distinct functions and accountabilities, and separate reporting lines. The front office is typically responsible for executing transactions in financial markets, including the management of auctions and other forms of borrowing, and all other funding operations. It is important to ensure that the individual executing a market transaction and the individual responsible for entering the transaction into the accounting system are different people. The back office handles the settlement of transactions and the maintenance of the financial records. In a number of cases, a separate middle or risk management office has also been established to undertake risk analysis and monitor and report on portfolio-related risks, and to assess the performance of debt managers against any strategic benchmarks. This separation helps to promote the independence of those setting and monitoring the risk management framework from those responsible for executing market transactions. Where debt management services are provided by the central bank (for example, registry and auction services) on behalf of the government’s debt managers, the responsibilities and accountabilities of each party and agreement on service standards can be formalized through an agency agreement between the central bank and the government debt managers.”

An absence of these key divisions of responsibility is likely to raise concern in the auditor's mind about the effectiveness of the control environment. The auditor may conduct further investigations to establish why such segregations of duty are not present or whether the subsequent risks presented are mitigated in some other way. The auditor may decide to raise any residual concerns formally with the public debt manager.

2.3 Compliance with Laws and Regulation

INTOSAI field standard requirement

In conducting regularity (financial) audits, a test should be made of compliance with applicable laws and regulations. The auditor should design audit steps and procedures to provide reasonable assurance of detecting errors, irregularities, and illegal acts that could have a direct and material effect on the financial statement amounts or the results of regularity audits. The auditor also should be aware of the possibility of illegal acts that could have an indirect and material affect on the financial statements or results of regularity audits.

In conducting performance audits, an assessment should be made of compliance with applicable laws and regulations when necessary to satisfy the audit objectives. The auditor should design the audit to provide reasonable assurance of detecting illegal acts that could significantly affect audit objectives. The auditor also should be alert to situations or transactions that could be indicative of illegal acts that may have an indirect effect on the audit results.

1. Reviewing compliance with laws and regulations is especially important when auditing government programs
2. Those planning the audit need to be knowledgeable of the compliance requirements that apply to the entity being audited
3. The auditor should be alert to situations or transactions that could be indicative of illegal acts that may indirectly impact the results of the audit

2.3.1 Reviewing compliance with laws and regulations

The audit of public debt management activities is not different from the audit of any other public function in terms of the requirement that external auditors should plan and perform their audit procedures and evaluate and report the results thereof, recognising that non-compliance by the audited entity with laws or regulations may materially affect the financial statements. Reviewing the compliance with laws and regulations is especially important when auditing public debt activities.

2.3.2 Knowledge of the compliance requirements

The legal and regulatory framework governing public debt management activities will define the nature and scope of those activities. The compliance requirements that apply to the audited entity might take a number of forms:

- legal requirements as set out in primary or secondary legislation;
- regulatory requirements as determined by an external regulator – for example, good practice requirements in respect of anti-money laundering measures, established for the financial services industry;
- supervisory requirements determined by government – for example, the need to comply with an annual public debt management remit as agreed annually with the Finance Ministry. Or more generally, the need to operate effective corporate governance and risk management processes in line with requirements for public entities.

Within the compliance framework, the specific requirements placed upon the public debt management agency will vary but might include:

- restrictions on the type of public debt instruments and markets that can be used;
- restrictions on the overall level of public debt that can be raised – for example, expressed as a percentage of gross domestic product;
- instructions on the number, size and timing of public debt issuance - for example, auctions of public securities;
- Requirements related to the counterparties of derivatives' transactions.

In addition to domestic requirements, there may also be international considerations that public debt managers need to take into account, such as conditionality agreements with international financial institutions which were established in previous debt negotiations.

2.3.3 Illegal situations and transactions

The auditor's ability to be alert to situations or transactions that could be indicative of illegal acts will stem from the extent to which the auditor has a sound understanding of public debt management activities - more specifically the legal and regulatory requirements - and the control and

governance framework in place. If the auditor becomes aware of issues or transactions where doubts about compliance exist then these can be taken up with the public debt manager where appropriate and further explanations sought. Assurance on such issues can also be obtained from the auditor's review of the public debt management control environment and in particular, the existence and operation of an effective compliance function within the public debt management agency.

The auditor can target areas where there are heightened risks of illegal activity and target audit work accordingly. For example, the auditor might conclude that there are particular risks of public debt instruments being used for money laundering purposes. The auditor can then perform focused audit work to assess the adequacy of controls in this area and verify that particular transactions do not constitute money laundering.

An important area that the auditor can address at an early stage is the relative significance for the audit of potential legal and regulatory issues. For example, the auditor might consider that evidence of public debt instruments being used to facilitate money laundering constitutes a legal breach that warrants a report and qualification of the financial statements. Alternatively, non-compliance with a government imposed remit, might be regarded as a control failure rather than a breach of legislation. In this context the auditor might conclude that inclusion of the issue in the auditor's report to the public debt management agency is sufficient. What constitutes an appropriate response by the auditor will depend on the particular circumstances arising and the national context within which the auditor is operating.

2.4 Obtaining Audit Evidence

INTOSAI field standard requirement

Competent, relevant and reasonable evidence should be obtained to support the auditor's judgment and conclusions regarding the organization, program, activity or function under audit.

1. The audit findings, conclusions and recommendations must be based on evidence
2. Auditors should have a sound understanding of techniques and procedures such as inspection, observation, enquiry and confirmation, to collect audit evidence

3. In choosing approaches and procedures, consideration should be given to the quality of evidence

2.4.1 Audit findings, conclusions and recommendations

In their audit of public debt management activities auditors obtain sufficient, competent, relevant and reasonable evidence on which to base their conclusions. Usually, audit evidence is persuasive rather than conclusive and the auditor seeks audit evidence from different sources or of a different nature to support the same assertion. The auditor's judgment as to what is appropriate audit evidence is influenced by such factors as:

- the assessment of the nature and degree of risk of misstatement at both the financial statement level and the account balance or class of transactions level;
- the nature of the accounting and internal control systems, including the control environment;
- the materiality of the item being examined;
- the experience gained during previous audits and the auditor's knowledge of the activity being audited;
- the findings from previous audit procedures and from any audit work carried out in the course of preparing the financial statements, including indications of fraud or error;
- the source and reliability of information available.

In evaluating the evidence obtained as part of audit testing, auditors also consider financial statement assertions. Assertions are the representations of those with responsibility for producing public debt management financial statements. These assertions may be described in general terms in a number of ways, for example:

- **Existence** - a liability (asset) exists at a given date. For example the public debt instruments included in the financial statements through measurement or disclosure exist at the date of the balance sheet;
- **Rights and obligations** - a liability (asset) pertains to the audited entity at a given date. For example a public entity has the rights and obligations associated with the public debt securities, money market

instruments or derivatives reported in its financial statements;

- **Occurrence** - a transaction or event took place which pertains to the audited entity during the relevant period. For example the transaction that gave rise to a derivative, or to a profit/loss on a disposal of a public debt security occurred within the financial reporting period;
- **Completeness** - there are no unrecorded liabilities (assets), transactions or events or undisclosed items. For example, all of the audited entity's liabilities and assets resulting from public borrowing or derivatives are reported in the financial statements through measurement or disclosure;
- **Valuation** - a liability (asset) is recorded at an appropriate carrying value. For example, the values of the public debt securities or derivatives reported in the financial statements through measurement or disclosure were determined in accordance with relevant legislation, regulations and applicable accounting standards;
- **Measurement** - a transaction or event is recorded at the proper amount and revenue or expense is allocated to the proper period. For example interest payments on public debt instruments are properly accrued or recorded, profits/losses on issuance/maturity are correctly calculated and attributed to the correct accounting period, and were determined in accordance with relevant legislation, regulations, borrowing agreements and applicable accounting standards; and
- **Presentation and disclosure** - an item is disclosed, classified and described in accordance with the applicable reporting framework, for example, relevant legislation and applicable accounting standards.

2.4.2 Techniques and procedures

Auditors can use a variety of sources to obtain the evidence and they should have a sound understanding of the substantive audit tests such as inspection, observation, enquiry, confirmation and recalculation.

- **Inspection** - examining records, documents or tangible liabilities/assets. Three major categories of evidence are:
 - o evidence created and provided to auditors by third parties, including such items as bank statements for cash or custodian statements of public debt security holdings;
 - o evidence created by third parties and held by the audited entity, including the results of counterparty circularization. For example, outstanding balances on repo transactions;
 - o evidence created and held by the audited entity, including the schedules, records and reconciliations underpinning the financial statements.
- **Observation** - looking at processes or procedures performed by others in particular, those that leave no audit trail. For example, this might include attendance at a public debt auction and subsequently tracing the realized terms of that particular auction or at a strategy committee meeting. This technique helps to ensure that all procedures are properly adhered to and monitored, as well as the accuracy of journal entries for specific borrowings.
- **Enquiry** - seeking information from knowledgeable persons inside or outside the audited entity. Enquiries may range from formal written enquiries to third parties, to informal oral enquiries to persons inside the audited entity. Responses to enquiries may provide auditors with information not possessed previously or with corroborative audit evidence. Key stakeholders that the auditor may consult in a public debt audit include primary dealers and public debt management agency staff in front, middle and back offices.
- **Confirmation** - enquiries designed to corroborate information contained in the accounting records. For example, the auditor may seek direct confirmation of public debts amounts by communication with creditors or of trading operations through direct communication with their counterparties.
- **Recalculation** – checking the mathematical accuracy of public

debt records by footing or crossfooting or by recomputing amounts and tracing journal postings, subsidiary ledger balances and other details to the corresponding general ledger accounts. For example, the auditor can recalculate payments in the interest payments list and trace the total to the general ledger interest payable amount.⁸

The auditor's approach to obtaining the required audit evidence will reflect the specialized and complex nature of certain aspects of public debt management activities. For example, the auditor may need to review the adequacy of complex accounting estimates used by the public debt management agency. Accounting estimates are used for valuation purposes in certain public debt management areas, for example, loan loss provisions and derivatives:

- in reviewing the adequacy of loan loss provisions, auditors ascertain that management have properly exercised their judgment following a consistently applied policy in determining the level of provisions;
- for various derivative instruments, an independent fair market valuation may not be readily available. For example, in illiquid markets such as rump stock public debt. In these instances, the public debt management agency is likely to use some form of mathematical model to provide a valuation.

When examining the adequacy of mathematical models, the auditor can review the controls, procedures and testing of the model and in particular, the performance of the model in various market conditions. In some cases, the auditors may use their own model to assess the audited entity's valuations. These procedures involve obtaining an understanding of the assumptions and a review of the estimates involved for reasonableness,

⁸ Auditors also perform vouching and tracing procedures. **VOUCHING** consists in selecting sample items from an account and going backward through the accounting system to find the source documentation that supports the item selected. **TRACING** consists in selecting sample items from basic source documents and proceeds forward through the accounting system to find the final recording of the transactions (e.g., in the general ledger).

consistency and conformity with generally accepted practices. Specific issues the auditor might consider to include are:

- whether the market variables and assumptions used are reasonable, appropriately supported and consistently used;
- whether new conditions justify a change in the market variables or assumptions used;
- the sensitivity of the valuation to changes in the variables and assumptions.

2.4.3 The quality of evidence

The reliability of audit evidence is influenced by its source - internal or external - and by its nature - visual, documentary or oral. In general:

- Evidence obtained and verified directly by auditors is more reliable than that obtained by or from third parties. For example, visual observation of public debt operations and computations by auditor are more reliable than observations and computations done by third parties.
- Evidence in the form of documents and written representations is more reliable than oral representations. Oral interviews are the least reliable audit evidence. Oral interviews with third parties can be more reliable than interviews with public debt management staff, but less reliable than written documents;
- Original documents are more reliable than photocopies, telexes or facsimiles.

2.4.3.1 Evidence from external sources

The auditor can generally place greater reliance on evidence from external sources than evidence from the audited entity's own records. Whilst this applies to any audit, it is particularly important in the audit of public debt. The highly complex nature of accounting systems, transactions, instruments and valuation, as well as the high values involved, makes third party evidence a very efficient and valuable source of assurance. Examples of areas where auditors may seek appropriate external evidence include:

- **liability and asset values** - including published prices of public

debt instruments and counterparty confirmations. This can also help in the evaluation of any models used by the audited entity for valuation purposes;

- **cash balances** - including external bank statements and counterparty confirmations;
- **existence and ownership of liabilities and assets** - including third party custodian statements, circularization and confirmations;
- **occurrence and measurement of transactions** - including counterparty confirmation of transactions involving public debt instruments;
- **interest and exchange rates** – obtained from independently published sources, this information may be used to test the reliability of rates used by the public debt management agency.

2.4.3.2 Evidence from the audited entity’s own records

Audit evidence obtained from the audited entity’s records is more reliable when the related accounting and internal control system operates effectively. The auditor’s view of the effectiveness of the internal accounting and control system is therefore significant in evaluating the quality of audit evidence generated by audited entity systems and records.

2.4.3.3 Evidence from experts

Given the complex and technical nature of public debt management activities, the SAI will wish to consider whether the audit team has sufficient detailed knowledge to undertake all aspects of the audit. Areas where specialist advice might be appropriate include:

- the accounting treatment and associated disclosures relating to complex public debt instruments, such as derivatives;
- the valuation and pricing models used by public debt managers, for example, to derive yield curves;
- the use of IT systems by the public debt management agency, for example trading and settlement systems;
- the use of benchmarking techniques and models;

- the use of tools to assess risk, for example the expression of market risk through the use of Value at Risk models;
- legal and compliance issues, including for example the quality and effectiveness of ISAD contracts used in derivative transactions and other contracts used in trading activities, as well as loan agreements the public debt management agency has entered into.

2.5 Examining Financial Statements

INTOSAI field standard requirement

In regularity (financial) audit and in other types of audit when applicable, auditors should analyze the financial statements to establish whether acceptable accounting standards for financial reporting and disclosure are complied with. Analysis of financial statements should be performed to such a degree that a rational basis is obtained to express an opinion on financial statements.

1. Financial statements are prepared in accordance with acceptable accounting standards
2. Financial statements are presented with due consideration to the circumstances of the audited entity
3. Sufficient disclosures are presented about various elements of financial statements

Auditors carry out such review of the financial statements as is sufficient, in conjunction with the conclusions drawn from other audit evidence obtained, to give them a reasonable basis for their opinion on the financial statements. Key issues that auditors might address when performing this review are considered below.

2.5.1 Accounting standards

The substantive work performed by the auditor should provide evidence that the financial statements have been prepared in accordance with acceptable accounting standards. This work will be informed by the auditor's professional knowledge of accounting standards and applying this to the public debt management activity being audited and the particular disclosures made in the financial statements.

While there is a degree of commonality between the audits of most

financial statements, the audit of public debt management activity may require the auditor to have familiarity with aspects of accounting standards that are not often relevant to the audit of other government functions. For example, the auditor is likely to need expertise in accounting standards relating to derivatives.

2.5.2 The audited entity

To ensure that the financial statements are presented with due consideration to the circumstances of the audited entity, the auditor will require a thorough and up to date knowledge of both the public debt management agency and the financial markets in general. In this way the auditor can bring an appropriate depth of knowledge to bear when considering the financial statements. This will help the auditor determine whether the financial statements:

- accord with his/her understanding of business activity during the year;
- are consistent with other published information – for example other government reports, or documents produced by the public debt management agency;
- reflect properly any significant external developments that have taken place – for example, organizational changes impacting on public debt management or large movements in interest and currency rates.

2.5.3 Sufficiency of disclosures

In addition to basic checks such as ensuring that the financial statements are numerically correct and internally consistent, the auditor may also want to consider whether additional disclosures relating to public debt management activity are sufficient and appropriate. Examples of issues that the auditor's considerations might cover include the following:

- the provision of clear, accessible information about public debt management activities and the purpose of the financial statements;
- details about the objectives of the public debt management agency;
- details about reporting arrangements;
- a review of activity and performance during the period;

- information on post-balance sheet events;
- information about risk management procedures operated by the public debt management agency;
- commentary on specific risks faced by the public debt management agency – for example (i) market risk and the use of value at risk and interest rate profile information (ii) derivatives – the operational policies governing their use, and the exposures faced by the public debt manager;
- details of accounting policies used to prepare the financial statements – for example relating to accounting conventions, valuation of securities, repo transactions, gains and losses on trading operations, income recognition;
- the provision of a maturity analysis of public debt securities issued and outstanding;
- segmental analysis between different activities – for example between public debt management and cash management;
- the disclosure of details about related party transactions.

2.6 Reporting Audit Results

INTOSAI field standard requirement

At the end of each audit the auditor should prepare a written opinion or report, as appropriate, setting out the findings in an appropriate form; its content should be easy to understand and free from vagueness or ambiguity, include only information which is supported by competent and relevant audit evidence, and be independent, fair and constructive.

With regard to regularity audits, the auditor should prepare a written report, which may either be part of the report on the financial statements or a separate report, on the tests of compliance with applicable laws and regulations. The report should contain a statement of positive assurance on those items tested for compliance and negative assurance on those items not tested.

2.6.1 The auditor's report

The auditor's reporting requirements in respect of the audit of financial

statements relating to public debt management activities are likely to be similar to those pertaining to the audit of other government functions. Consequently, in addition to meeting the requirements of the INTOSAI field audit standard, the auditor might be guided by national auditing standards together with any additional reporting requirements imposed or agreed by government.

2.6.2 Additional communications

In addition to the auditor’s report and opinion on the accounts, the auditor may also prepare other key documents to enhance the audit process and add value to the audited entity. For example, at the start of the audit the auditor might prepare a “strategy” document setting out the scope and purpose of the audit, and providing details about how the audit will be conducted and the key issues that the auditor wishes to draw to the attention of the public debt management agency.

During the audit, the auditor may feel it appropriate to communicate formally with the public debt management agency and may prepare letters and reports accordingly. The nature and extent of such interim communications will vary depending on the issues arising. However, at the end of the audit it is common practice for the auditor to provide the public debt management agency with a letter setting out the key issues encountered and seeking management responses on the points raised and how they will be addressed.

The auditor may have additional rights and duties to report to specified regulators. Where public debt management is overseen by an external regulator, it is likely that the auditor will report to the regulator when information has become available during the performance of the audit and:

- the auditor concludes that the information is relevant to the regulator’s functions having regard to such matters as may be specified in statute or any related regulations; and
- in the auditor’s opinion there is reasonable cause to believe it is or may be of material significance to the regulator.

With the exception of the formal audit report and opinion on the financial statements, the auditor is likely to have scope to use professional

judgment when designing and presenting reports. This allows the auditor to consider the nature of the audience being addressed and the purpose of the document being prepared. For example, the auditor may prepare documents for consideration by the management of the public debt management agency or by the Government and the Parliament. The differing remit and motivations of these entities may be reflected by the auditor in the style and content of communications.

3. Use of Substantive Audit Tests in Public Debt Audits

As explained in section 2.4, substantive audit tests help auditors to obtain competent, relevant and reasonable evidence in order to support their judgment and conclusions. The objective of substantive audit test is to help auditors determine whether the monetary values of public debt transactions or balances are stated correctly. Table 3 below provides examples of substantive audit tests used in auditing of public debt.

Table 3: Substantive Audit Tests Used in Public Debt Audits

Assertion	Audit Test
Existence and Occurrence	<u>Confirmation</u> with the holder of the public debt instruments or fiscal agent or custodian of public debt records or trustee
	<u>Inspection</u> of underlying public debt agreements and other supporting documents, confirmations received from creditors, in paper or electronic form, for amounts reported
	<u>Inspection</u> of supporting documents for subsequent realization or settlement after the end of the reporting time period
	<u>Observation</u> of auctions and underwritings
Assertion	Audit Test
Rights and Obligations	<u>Confirmation</u> with the holder of the public debt instruments or fiscal agent or custodian of public debt records or trustee
	<u>Inspection</u> of underlying public debt agreements and other supporting documents, confirmations received from creditors, in paper or electronic form, for amounts reported
Assertion	Audit Test
Completeness	Review of all counterparty transactions. When requesting details from the counterparty, consider which part of the organization is responding, and whether this represents all relevant aspects of its dealing with the audited entity

Assertion	Audit Test
Completeness	Send zero-balance confirmations to potential public debt holders or counterparties
	Review primary dealers' statements for the existence of transactions and holdings of public debt instruments
	Use computer-aided techniques to extract aggregate trading data for agreement with general ledger and financial statement report
	Perform sampling tests of individual trades for counterparty confirmations and after-date receipts
	Review accounting records before and after the year end for unusual transactions
	Review counterparty confirmations received but not matched to transaction records
	Review unresolved reconciliation items in reports
	Inspect public debt agreements for embedded derivatives
	Review minutes of public debt committee and related papers
	Perform calculation for proper accrual and recognition of public debt expense
Assertion	Audit Test
Valuation and Measurement	<u>Inspection</u> of documents to verify cash receipts from borrowing
	<u>Confirmation</u> of the nominal value of public debt amounts with fiscal agent or trustee
	<u>Re-calculation</u> of mark-to-market calculations for a sample of high value public debt instruments
	Check the accuracy of translation of book and market value of public debt instruments denominated in foreign currencies
	Use quoted market prices to verify values disclosed of public debt instruments, money market instruments and derivatives
Assertion	Audit Test
Presentation & Disclosure	Verify that accounting principles selected and applied are in conformity with legislation, regulations and applicable accounting standards, and are appropriate for the public debt management agency

Assertion	Audit Test
Presentation & Disclosure	Verify that the financial statements and related footnotes provide sufficient disclosure that is neither too detailed nor too condensed
	Verify that the financial statements provide information on matters that may affect their use, understanding and interpretation
	Verify that the financial statements reflect transactions in a manner that present the public debt levels, results of borrowings and interest payments, and cash flows within a range of acceptable limits
	Review the classification of public debt instruments to ensure it is in agreement with the legislation, regulations and practices

In addition to substantive audit tests, auditors perform analytical procedures to compare actual and expected values between key financing variables. The objective of this comparison is to identify and investigate the reason for any unusual or unexpected relationship between the actual and expected values, for example, the expected and actual relationship between the interest rate in legal documents and actual interest expenditures. Analytical procedures consist of comparing recorded account balances with the auditor's expectations. The auditor develops an expectation or estimate of what the recorded amount should be based on an analysis and understanding of relationships between the recorded amounts and other data. This estimate is then used to form a conclusion on the recorded amount. A basic premise underlying analytical procedures is that plausible relationships among data may reasonably be expected to prevail unless conditions are known that would change the relationship.

Analytical procedures generally rely on aggregate data rather than unit values, which makes them more effective and efficient than tests of individual transactions. Common analytical procedures involve the use of ratios, trends and variance analysis. More sophisticated analytical procedures use econometric analysis, including regression, simulations, stress-testing and large-scale economic models. The Table 4 below describes steps taken by auditors to apply analytical procedures.

Table 4: Steps in the Application of Analytical Procedures

a. Determine the amount of the materiality limit. This limit is the amount of difference between the auditor's expectation and the recorded amount that the auditor will accept without investigation. The determination of the limit is a matter of the auditor's judgment.
b. Identify a plausible, predictable relationship and develop a model to calculate an expectation of the recorded amount. Consider the type of misstatements that could occur and how those misstatements would be detected by the model.
c. Gather data for developing the expectation, and perform appropriate procedures to establish the reliability of the data. This reliability is subject to the auditor's judgment.
d. Develop the expectation of the recorded amount using the information obtained during the previous steps. The preciseness of the expectation is subject to the auditor's judgment.
e. Compare the expectation with the recorded amount, and note the difference.
f. Obtain explanations for differences that exceed the limit, since they are considered significant.
g. Corroborate explanations for significant differences.
h. Determine whether the explanations and corroborating evidence provide sufficient evidence for the desired level of substantive assurance. If unable to obtain a sufficient level of substantive assurance from analytical procedures, perform additional procedures and consider whether the difference represents a misstatement.
i. Consider whether the assessment of combined risk remains appropriate, particularly in light of any misstatements identified. Revise the assessment of combined risk, if necessary, and consider the effects on the extent of detail tests.
j. Document the amount of any misstatements detected by analytical procedures and their estimated effects. The materiality limit is not considered a known or likely misstatement and is not included in the list of possible audit adjustments.
k. Conclude on the fair presentation of the recorded amount.
l. Include documentation of work performed, results, and conclusions in the workpapers.

An Illustration – Explaining the Difference between Expected and Actual Interest Expense

Suppose the auditor estimates that the interest expense for the current period is \$80 million. The auditor obtains this estimate based on a \$1 billion public debt average balance times 8 percent, the average annual interest rate. The materiality limit for the present analytical procedures is \$5 million. The auditor finds that the actual amount of interest expense is \$94.5 million. The difference - \$14.5 million - exceeds the test materiality by \$9.5 million. Auditors ask public debt managers and their explanation is that “we borrowed more money and interest rates are higher than last year”. The auditor needs to corroborate this explanation. For example, auditors can find that interest rates increased during the year and then fell, and were computed to average 9 percent based on a monthly average instead of 8 percent. Additionally, loan statements from lenders indicate that \$100 million was borrowed and repaid during the year, and the additional borrowings were outstanding for 6 months. Thus, the average loan balance was actually \$50 million higher and the average interest rate was 1 percent higher than the figures used in the auditor’s original estimate.

4. Substantive Audit Tests for Derivatives

Public debt managers are increasingly using financial derivatives to manage their exposures to risks inherent to some public debt instruments, such as interest and foreign currency risks. Public debt managers change the term to maturity and other features of public debt by using financial derivatives, known as currency or interest swap agreements to exchange payments with a financial institution according to a pre-arranged formula.⁹ In a common swap transaction, a public entity would issue long-term securities and simultaneously agree to swap its fixed-rate, long-term interest payments in exchange for floating (short term) interest payments. Public debt managers and their investment bankers routinely produce financial analyses that support the claim that the combination of long-term debt coupled with an interest rate swap is less costly than straight issuance of short-term public debt instruments. Financial derivatives embedded in traditional loan contracts are also promoted by multilateral lending institutions, such as the World Bank and regional development banks. Many public debt agencies routinely use combinations of swaps and long-term borrowing to shorten the duration of their debt profile, reduce their reported cost of borrowing, and provide liquidity to their benchmark securities across the yield curve.

The growing use of financial derivatives may outpace the ability of public debt managers to report in a clear and transparent manner the results of their performance, and poses a challenge to auditors who must examine

⁹ Gustavo Piga, author of *Derivatives and Public Debt Management* (2001), published by the International Securities Management Association, describes in detail how a government entered into a swap with a private bank that allowed the country to obtain cash that reduced the reported public budget deficit below the Maastricht limit and allowed the country to qualify for entry into the single European currency.

and opine on the transparency of public debt agreements with embedded financial derivatives. An example of common substantive audit tests applied to derivative instruments is described in Table 5 below.

Table 5: Substantive Audit Tests Applied to Derivative Instruments

Assertion	Audit test
Completeness and Existence	<u>Confirmation</u> of significant terms with the holder of, or counterparty to, the derivative
	<u>Inspection</u> of underlying agreements and other forms of supporting documentation, in paper or electronic form
	Ask holder of or counterparty to the derivative to provide details of all derivatives and transactions with the public debt management agency
	Send zero-balance confirmations to potential holders or counterparties to derivatives
	Review brokers' statements for existence of derivative transactions and positions held
	Review counterparty confirmations received but not matched to transactions records
	Review unresolved reconciliation items
	Inspect agreements, such as loan or equity agreements, for embedded derivatives
Valuation and Effectiveness	Assess of the reasonableness of models, variables and assumptions used to value derivatives
	Gather market prices to assess valuation that are firm and valid
	Assess the sensitivity of valuation to changes in variables and assumptions
	Inspect supporting documents for settlement of the derivative transactions after end of the reporting period
	Use proprietary models or the public debt management agency's internally developed models to assess valuation when no market prices exist
	Use analytical procedures to evaluate risk management policies, including compliance with credit limits

Assess the effectiveness of hedging activities to reduce losses	Assess whether the derivative was designated as a hedge at the inception of the transaction
	Determine what was the nature of the hedge
	Determine what was the risk management objective for undertaking the hedge
	Determine what was the public debt manager's assessment of the hedge's effectiveness
	If the derivative was hedging a future transaction, determine what was the public debt manager's assessment of the likelihood of the future event
	Assess the extent of disclosures of derivatives used as hedges, and extent of compliance with laws and regulations that require disclosure of derivative transactions, including notional and fair value, number and credit quality of counterparties, value at risk, stress test results, etc.

