VALUE ADDED TAX

A study of
Methods of Taxing
Financial and Insurance Services

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FOREWORD

No satisfactory method of taxing financial and insurance services could be found prior to the introduction of the common European Community VAT system in 1978. As a result, under the provisions of the EC Sixth VAT Directive (77/388/EEC), the current regime of exemptions for financial and insurance services was introduced with, in the case of financial services, the alternative for Member States to allow taxpayers the option to tax.

Such exemptions (without the right to deduction) are alien to the fundamental principles of a VAT system because they interfere with the neutrality of the tax and the cascading effect distorts competition. Distortion also occurs within the Community because the option to tax has been applied to some financial services in a few Member States but not at all in others. Against this background and following an invitation from the European Parliament, the Commission has been considering how the distortions and complexity inherent in the exemption regime could be eliminated and has commissioned studies into possible methods of taxing financial and insurance services under a VAT system. The reports received are published in this volume.

The studies have been conducted by consultants (Ernst & Young (Canada)) for the Commission and form the first part of an ongoing programme of research on the subject. The conclusions reached are provisional and may be subject to revision in the light of additional academic and practical work which is currently being carried out into the cashflow method of accounting.

When the Commission reports back to the European Parliament on possible alterations to the VAT treatment of financial and insurance services, the method developed in these studies will certainly merit serious consideration as it is the only approach identified to date which is compatible with the credit invoice system of VAT. However, not only will it be necessary to consider the technical aspects and in particular the practicability of the approach, but also to take account of the sensitivity and potentially far reaching effects which any change in the system of taxation could have in this sector.

The undertaking of this research together with its publication does not imply that the Commission is committed to any specific approach or course of action in relation to the taxation of financial and insurance services.

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Treatment
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PART 1

TREATMENT OF FINANCIAL SERVICES UNDER A VAT

INTRODUCTION

Almost all of the countries employing VAT have opted to exempt financial services rendered to residents of their country. This means financial institutions do not charge tax on the supply of exempt financial services to domestic consumers and businesses, but they do pay tax on their own purchases of taxable goods acquired for use in making exempt supplies. The decision to exempt financial services has revolved around the difficulty of identifying and measuring the value of financial services on a transaction by transaction basis. Identification of value-added is a special problem in the case of financial services, because it is often hidden in the margin between the payment to savers and the charges to borrowers. In contrast, value-added for non-financial services is represented by the explicit charge for the good or service.

While the exemption approach has been widely adopted, there are significant difficulties in operating the system. The definition of financial services has created problems, as has the allocation of input tax credits to taxable and exempt activities. Given that the exemption of financial services creates non-neutralities relative to other goods and services, a number of adverse economic effects can be identified. Economic difficulties arise as a result of tax cascading (as a result of the inability to claim taxes on inputs); international competition from foreign financial institutions not subject to VAT on inputs; and the bias to vertical integration in order to avoid tax on inputs. Finally, another significant problem area has been the taxation of imported services as inputs to a financial institution. Although some of these problems can be ameliorated, the resulting systems have proven to be very complex and, in any event, often do not achieve neutrality.

Financial services provided to non-residents also provide some difficulties. Zero-rating, or zero-rating with exceptions, are the common approaches used.[1] Under zero-rating, no VAT is applied on the supply of the service, but input tax credits are claimable in respect of tax paid on goods and services acquired for use in making the supply of the financial service.

Historically, as financial services in the countries with VAT were tightly regulated, the complexities and non-neutralities of the exemption system may not have given rise to serious concerns. The regulatory regime ensured that there was a clear segregation between financial and non-financial activities of financial institutions. Moreover, competitors in the supply of a service were typically subject to similar VAT treatment. However, this is no longer the case, as globalization and deregulation have significantly expanded the number of cases where the present exemption system does not perform very well.

Confronted with the growing problems, policy makers have become interested in alternative approaches which would operate in a more neutral fashion than the exemption system. For example, Canada, the United Kingdom and New Zealand have all explored options designed to make financial services supplied domestically taxable.

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[1] The EC countries system of exempting financial supplies to residents of other EC countries is really an extension of the domestic exemption system to encompass all EC countries, with exports of financial services (and zero-rating) applying to non-EC countries.

The treatment of financial services in the European Commmunity is subject to the provisions of the 6th VAT Directive which exempts financial services, while allowing Member States to allow taxpayers a right of option. Given the development of financial services since the time of adoption of the 6th Directive in 1977, the Commission of the European Communities wishes to examine the existing treatment of financial services in the Community and to explorealternatives that result in a more neutral application of tax.

Ernst & Young (Canada) was asked by the Commission to prepare a background study on this topic, which would include information on:

– the VAT treatment of financial services in Europe and other industrialized countries;

– the problems being encountered under the current system; and

– the options available for the application of VAT to financial services.

This report is prepared in response to the Commission request. It is divided into three major parts, as follows:

Part 2 looks at the services provided by financial institutions and the nature of the value-added created by them. It also describes the current VAT systems in more detail and analyzes the problems under the current systems.

Part 3 extends the analysis of financial services through detailed descriptions of value-added in different situations and considers the possibility of allocating value-added in the form of financial margin to individual transactions.

Part 4 outlines the major alternative mechanisms for applying VAT to financial services. These are the traditional credit-invoice system. the addition system, the cash-flow system, the subtraction system and ad hoc approaches. The advantages and disadvantages of each are reviewed in detail.

It should be emphasized at the outset that the primary focus of this report is on conceptual issues that arise in the taxation of financial services and on alternatives to the current exemption system. As such, the report does not provide a detailed discussion of the current tax systems prevalent in the Community and other VAT jurisdictions. Such discussion is included in the report only to the extent it is necessary for an understanding of the conceptual issues and for an evaluation of the alternatives.

This report is essentially in the nature of a survey of the existing literature on the topic. It provides a conceptual framework which could assist the Commission in deciding how best to organize its furture in-depth research program. It identifies a number of problems that arise in applying the tax to financial services. While some of these problems are relatively easy to solve, there are others for which to date no workable solutions have been identified. It is only through further research that one would be able to form an opinion about the viability of any method for appling the tax to financial services.

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PART 2

SERVICES PROVIDED BY FINANCIAL INSTITUTIONS AND THEIR CURRENT TAX TREATMENT

NATURE OF FINANCIAL SERVICES

A logical starting point in looking at the issue of VAT and financial services is to identify and to describe the nature of financial services, thereby isolating the value-added produced by such activities. This section first considers some of the approaches used and the conclusions reached in the literature on this topic. It then looks in detail at each of the activities which give rise to value-added in financial transactions.

Many studies have looked at the issue of the nature of value-added in financial services, adopting a number of approaches and viewpoints.[2] Some studies have been theoretical in nature, proceeding, for example, by assessing how changes in assumptions in general equilibrium models can lead to the appearance of value-added in financial transactions. Other studies have been more descriptive and institutional in nature, concentrating on the identification of value-added in particular transactions or by particular types of financial institutions. However, all of these studies are designed to show that financial flows do in fact include elements of value-added and to derive ways of identifying or defining this value-added. In the process, the studies invariably result in the identification of conceptual and measurement problems. It is, of course, the existence of such problems which is the underlying rationale for exemption for financial services in most VAT systems.

At the most general level, it can be argued that in markets incorporating perfect knowledge and no transaction costs, there would be a place for financial securities as claims on the cash flows of various projects. However, there would be no value-added in the creation of these instruments. One study which summarizes this argument in respect of the Arrow -Debreu state preference model is New Zealand (1988, Under the assumption of perfect markets in such general equilibrium models, only real activities create consumable goods and services and hence value-added. Under such conditions, there would be no argument for general consumption taxes to apply to any element of financial flows, because there would no element of value-added incorporated in them.

However, once transactions costs are included in such general equilibrium models, there is value-added from the provision of financial services. This can be described in the following fashion, "... institutions which operate in financial markets create additional value, because they control the costs of transacting in financial markets and also because they help to reduce transactions costs in other markets".(New Zealand 1988)

In the literature, this function is generally referred to as financial intermediation and is considered to be the element in financial margins that gives rise to value-added and which should be subject to a general consumption tax. For the purposes of this paper, it is most useful to

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[2] Examples of studies which consider various aspects of this basic conceptual issue are Meade (1978), Barham, Poddar, Whalley (1987), Hoffman, Poddar, Whalley (1987), Hoffman (1988), Henderson (1988) and New Zealand (1988).

proceed by identifying the intermediation associated with various financial instruments or with the services provided by a particular financial institution. This is done later in this section and in the following section.

Several studies discuss the nature of intermediation in more general terms.(New Zealand 1988, 15-17 & Appendix 1), (Hoffman 1988, 1210-1213) (Henderson 1988, 41-42) They identify four main components of financial flows. It is only those components of the flows that represent intermediation services that should be taxable. Other parts of the flows which represent mere transfers do not represent value-added and should not be part of the tax base.

The different components of financial flows associated with a financial transaction involving a banking operation can be summarized as follows, with the appropriate treatment under a VAT given in brackets.

1. The initial deposit creating a right to future cash withdrawals and the future cash repayments contingent upon this. (These represent transfers of funds and should not be taxable.)

2. Pure interest payments. (This is compensation for deferral in consumption and should not be taxable under a consumption tax. Interest payments are income of the recipient and should be subject to VAT only when the income in consumed.)

3. The pure risk premiums. These are amounts charged to borrowers to cover the risk of defaults. They are defined to equal the expected value of defaults, excluding any profit element of the financial institution or the administrative costs of risk pooling. (This component should also not be taxable as it is merely a redistribution of funds, or a form of wealth transfer, among the various parties involved.)

4. A compensation to the financial institution for the costs incurred in accepting deposits and making loans, including compensation to the shareholders in the form of profit. (This is the value-added of the <u>financial institution</u> and should be taxed.)

Similar descriptions can be made for other financial services such as insurance and the creation or trading of securities such as debt or corporate equity.

Financial institutions can be considered to provide seven distinct services that create value-added, and that are included in the fourth component above. These are discussed below, starting with intermediation between borrowers and lenders. It should be noted that in the remainder of the paper the term financial intermediation is used in a generic sense to apply to any or all of these functions.

Intermediation between Borrowers and Lenders

For purposes of this paper, this represents the basic form of financial intermediation service between borrowers and lenders. Financial institutions enter into financial contracts both with those with funds to be lent and also with those seeking funds to be used in investment projects. The literature identifies a whole set of factors which allow financial intermediaries to obtain certain cost efficiencies in arranging financial contracts on both the savings and investment sides of the agreements. These include:

■ Financial intermediaries may be well-known to savers, limiting their costs of obtaining information on the characteristics of the financial contract, of enforcing contracts and of dealing with *ex post* monopoly behaviour of the investor in demanding new terms.

- Government regulation of financial intermediaries may provide an acceptable form of contract supervision and of prevention of unexpected behaviour by the investor (for example, as a result of moral hazard leading to risky investment).

- Financial intermediaries can have advantages in dealing with investors in terms of asymmetrical information relative to savers, ability to monitor and enforce contracts, and prevention of opportunistic behaviour such as demanding rewritten contracts.

Pooling of Savings

Individual savings tend to be small in size compared to the investment projects which use the savings. There may be considerable cost savings in contract negotiations achieved by an intermediary reaching individual agreements with these savers and bringing the funds together on a pooled basis. The intermediary may be very efficient in pooling funds for the same reasons that it can act efficiently in straight intermediation activities. The financial contract on the investment side can be of a size which matches the needs of the investment project, minimizing the number of agreements that must otherwise be reached in the absence of pooling.

Pooling of Risks

There are various risks involved in both the real economy and in the contracts involved in the financial sector. Risk averse individuals wish to reduce the risk associated with their activities. As a result they are willing to pay in order to be compensated for some contingencies (such as an accident) or to reduce the variability in their return on investments. Intermediaries can provide services in this respect by gathering together funds in an insurance plan or creating an investment portfolio consisting of numerous investments. The financial intermediary is able not only to collect a pool of funds to cover the claims of investors, but also to charge for its costs in arranging the related contracts. This activity of pooling of risks thus creates a financial service which when provided for the benefit of consumers is a service that is not charged for elsewhere.

Provision of Liquidity

Liquid assets are ones which can be disposed of with relatively little variability in the realized price. Illiquid assets will earn a higher rate of return, because of the variability of returns associated with them. Persons will have different preferences as to the degree of liquidity of assets they wish to hold. Intermediaries can provide a financial service by offering their own liquid securities such as deposit accounts or certificates of deposit to savers, while accepting less liquid securities such as agreements to a term loan or a bond from investors. This activity increases the level of liquidity in the economy and provides a service to consumers that is not included in other prices.

Transaction Clearing Services

Transactions in the real economy and also certain forms of financial transactions may have costs associated with them. Financial intermediaries facilitate the execution of transactions by creating the proper infrastructure and reducing the costs of such transactions. Examples of such services involve chequing facilities and credit card transactions. Intermediaries can pro-

vide the record-keeping and carry out the details of finalizing the financial transactions associated with real and financial exchanges. This provides value to consumers.

Creation and Making of Markets in Financial Instruments

Intermediaries can provide the means by which buyers and sellers of financial instruments can come together to exchange securities. Such activities may reduce search costs and provide for efficient record-keeping. They may also enforce rules which limits adverse selection and reduce costs of enforcement of individual participants.

Agency Services

The various financial services may in some cases be supplied through agents. Agents can reduce transactions costs associated with the geographical location of consumers, reduce search costs in choosing among financial instruments with similar purposes and, in general, function as a more sophisticated version of either saver or investor in the financial markets.

MAIN CATEGORIES OF FINANCIAL SERVICES

Financial services can be categorized in a variety of ways, e.g. by the type of financial instrument or by the type of service provided. The previous section set out the services provided by financial institutions on the basis of the nature of function involved. The actual services that are available in the market generally involve a mix of two or more of these functions. They are rarely identified in the market place by the functions performed by the financial institutions. The tax treatment of financial services is also generally defined in the taxing statutes by reference to the nature of services actually provided in the market place, as opposed to the functional classification. Thus, to facilitate proper analysis, it is useful to categorize financial service not by the underlying functions performed by the financial institutions, but on the basis of how they are packaged and presented in the market place. Chart 1 provides one such categorization that is used in this report.

CHART 1

Financial Services:
Main Categories

A: Deposits, borrowing and lending

   (i) Banking operations

   (ii) Credit card operations

B: Purchases, sale and issuance of financial securities

   (i) Bonds, shares, options, guarantees and foreign currencies

   (ii) Gold and precious metals

C: Insurance

   (i) Life

   (ii) Property & Casualty

D: Brokerage and other Agents services

   (i) Buying and selling of financial securities

   (ii) Underwriting and other transactions where agents act as principals

E: Advisory, management and data processing services

   (i) Buying and selling of financial securities

   (ii) Underwriting and other transactions where agents act as principals

   (iii) Administrative and information services, incidental or supplementary to financial services

   (iv) Other

CURRENT VAT LEGISLATION

Domestic supplies

While financial services are, in general, exempt in almost all countries with VAT, there are variations in the definition of exempt financial services. Certain services provided by financial institutions are explicitly excluded from the scope of the exemption in virtually all countries. There are other services which are taxable in many countries, but not all. Chart 2, entitled Current VAT Legislation for Domestic Supplies of Financial Services, provides a breakdown of financial services on this basis.

An important common characteristic of those services of a financial nature that are taxable is that they are typically charged on a fee-for-service basis. As will be seen, this is the characteristic which distinguishes financial services which can be taxed effectively under a credit-invoice VAT system. The list of taxable financial services in particular countries may also reflect particular institutional arrangements in the countries or the structure of predecessor taxes that were replaced by the VAT.

The scope of the exemption for financial services in EC countries is set out in the Sixth Directive.[3] The sixth directive permits member countries to allow financial institutions an option to treat financial services as taxable supplies. This option system is discussed below in the next section .

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[3] The Sixth Directive provides for the exemption of the following transactions [Article 13(B)(d)]:

- the granting and the negotiation of credit and the management of credit by the person granting it;
- the negotiation of or any dealings in credit guarantees or any other security for money and the management of credit guarantees by the person who is granting the credit;
- transactions, including negotiation, concerning deposit and current accounts, payments, transfers, debts, cheques and other negotiable instruments, but excluding debt collection and factoring;
- transactions, including negotiation, concerning currency, bank notes and coins used as legal tender, with the exception of collectors' items; "collectors' items" shall be taken to mean gold, silver or other metal coins or bank notes which are not normally used as legal tender or coins of numismatic interest;
- transactions, including negotiations, excluding management and safekeeping, in shares, interests in companies or associations, debentures and other securities, excluding:
  - documents establishing title to goods,
  - the rights or securities referred to in Article 5(3)

Article 28(3)(b) provides that during a transitional period the Member States may continue to exempt transactions concerning gold other than gold for industrial use. This derogation is only available for the Member States which granted such an exemption as of the date of the adoption of the sixth directive.

The Option System

The denial of deduction of input taxes to financial institutions in respect of their exempt services leads to a cascading of tax where the services are provided to other business firms that are liable to charge tax on their supplies. To minimize such cascading, the sixth directive of the EC allows member states to grant an option to financial instituions to treat all or a part of their financial services as taxable supplies. The exercise of this option allows the financial institution to recover the tax on its inputs. The tax charged by the financial institution on its supplies of financial services is recoverable by its business customers where they use the services as inputs to other taxable supplies.

The use of this option system has been limited in the EC, either because member countries do not allow it, or allow it only for a restricted range of financial services. For example, Denmark, Spain, Greece, Ireland, Italy, Luxembourg, the Netherlands, and the United Kingdom do not allow the option at all. In Belgium and France, the option is not available in respect of credit operations. Germany allows the greatest flexibility in the use of the option, but many banks have chosen not to take it up.

Supplies to Non-Residents

The current EC approach is to exempt financial services supplied to other EC countries. For countries outside the EC, zero-rating is applied, with certain exceptions. Non-EC systems generally provide zero-rating for supplies to all non-residents, with certain exceptions. The general approach both within and outside the EC is thus essentially the same, except that in the EC the exemption approach is extended to supplies of financial services to customers established in other community countries. The rationale for zero-rating is to place domestic financial institutions on a competitive footing with foreign financial institutions, such as those in the United States, which may not be subject to any sales taxes on their inputs.

The major difficulty that arises with respect to supplies of financial services to non-residents is to determine the place of supply. In the case of goods and non-financial services, the determinant factor is the location of the use, consumption or rendering of the service and the tax is applied on a strict destination basis. If the supply occurs outside the producing country, the supply is outside the scope of the tax. If the supply is an export, it is zero-rated. In the case of financial services, the primary criterion for defining an exported financial service is the residence of the person to whom the service is rendered. If the customer is established (resident) outside the country, the supply of the service is zero-rated, regardless of where the service is rendered. If the customer is a resident of the country, the supply is exempt.

In the case of insurance services, the general approach is to zero-rate the service where the risks covered under the insurance policy are located outside the country being considered. However, in the case of certain policies, such as third party liabilities and international air and marine transportation, the location of risk may not be confined to any single country and special rules may be needed for defining their tax status.

The delineation between domestic and export supplies is also difficult in the case of financial services related to purchases and sales of securities in the secondary markets, and requires special rules. For example, when an investment fund holds a portfolio of foreign securities acquired in the secondary markets, it is not clear whether it is providing services to the domestic unit-holders on whose behalf the securities are being held by the fund, to the person from whom the securities were acqquired by the fund, or to the non-resident companies who originally issued the securities. Often, financial intermediaries unbundle the securities into their components to form "derivative" products that are marketed separately, e.g. bonds stripped of interest coupons and the coupon strips. It is debatable whether the original issuer of the security derives any direct benefit from such market activities. They may benefit other participants in the market, but their place of residence may not be easy to establish for tax purposes. Because of such difficulties, certain financial services related to portflios of securities acquired in the secondary markets are defined to be exempt under the Canadian legislation, regardless of whether they are rendered to residents or non-residents.

Input Tax Credit Allocation

The co-existence of exempt and zero-rated financial services for financial institutions means that there must be an allocation between purchased inputs used for zero-rated services for which input tax credits (i. e. deduction) should apply and those supplies used in exempt services where input tax credits should not be available. A similar issue of allocation arises where a financial institution provides both taxable non-financial services and exempt financial services. While there is considerable variation among countries in the methods used for calculating deductible input taxes, conceptually the methods fall into two broad categories: direct attribution and formula allocation.

Direct Attribution

Direct attribution involves determining the actual use of the inputs in the provision of taxable (including zero-rated) services and allowing the VAT paid on these inputs as input tax credits. If the input is only used for these activities, the allocation is in principle straight forward. If it is used for providing both exempt services and services leading to deduction, then a reasonable allocation must be made to the two categories.

Reasonable allocation may potentially be based on various indicators. It could, for example, be based on the portion of time an input is utilized in taxable and exempt activities respectively. It could also look to such indicators as the portion of floor space or the portion of documents processed where these are relevant. Other options would be the ratio of revenues, ratio of employee time or the ratio of other inputs that can be directly attributed to taxable and exempt activities. Clearly, direct attribution will generally require information and accounting systems that identify the specific use of each input. The resulting information also needs to be kept up-to-date as activities are modified and the scope of taxable and exempt activities changes.

One method of direct attribution used by many financial institutions in Canada and the U.K. is referred to as the cost /profit centre method. Under this method, all taxable inputs are first allocated to a cost/profit centre which may either relate to a major type of expenditure (such as computer costs) or to a particular type of operating activity (such as custodial services). If an item is used jointly by more than one cost centre, it is distributed on grounds similar to those described above.

In many cases, each cost/profit centre will involve only taxable or only exempt activities. In these cases, no further allocation is required. However, if the cost/profit centre is itself involved in both taxable and exempt activities, a further allocation using the methods described above will be necessary.

In general, the direct attribution system is costly to comply with and contains the seeds for frequent disputes between taxpayers and administrators.

Revenue-based Formula Allocation

Formula allocation represents a means of avoiding the problems of direct attribution, by instead determining the availability of input tax credits on the basis of some readily available measures of taxable and exempt activities. Under this system, the deductible proportion of

input taxes is most commonly based on the ratio of revenues from taxable supplies to total revenues from taxable and exempt supplies. There are a few examples where the deductible proportion is based on the volume of the two types of transactions, and not their values. For example, in the U.K., security brokers and dealers now base the allocation on the ratio of number of taxable transactions to total transactions. Previously, the allocation was based on the values of taxable and exempt transactions and was found to give rise to serious distortions.

In ideal circumstances, this approach can avoid the necessity of information and accounting systems that keep track of the use of inputs. However, under formula allocation there is considerable variation among countries in the definition of revenues from financial services, or other measures used for the volume or value of activities. For example, some countries include gross interest receipts in the definition of revenues from exempt financial services, while others include only the net interest of the interest margin. Spain and Italy include the total proceeds (including the principal amount) from sales of financial securities in the denominator (i.e. in the definition of total revenues from taxable and exempt activities), yielding a very small deductible proportion. There are also variations in the inclusion of capital gains.

PROBLEMS UNDER THE CURRENT SYSTEM

There are a considerable number of problems that can be identified under the current approach to taxation of financial services. This section describes and analyzes these problems.

The problems can be broken into four broad categories. These are:

- Definition of exempt financial services

- Allocation of input tax credits

- Adverse economic effects
   - tax cascading
   - international competition
   - self-supply bias

- Taxation of imported services as inputs to financial institutions

Definition of Financial Services

In order for the exemption system to work, there must be a definition of what constitutes a financial service. In practice, there are a significant number of areas where there are complexities and ambiguities in developing and applying such definitions.

Identification of financial services

VAT legislation typically sweeps in all "commercial activity", defined on quite a broad basis, and then allows for certain exemptions. Under the Sixth Directive, provision was made for exemption of certain transactions of a financial nature[3] As was noted earlier, the actual exempt activities vary from country to country.

Canadian legislation defines a set of financial instruments and specifies that services related to such instruments and to money are exempt. However actual operation of the rules lead to the need for detailed interpretation of the general rules. For example, Revenue Canada, the Canadian tax administrator, has released its interpretation of what constitutes financial activities. For trust companies alone, this consists of a list of some 240 transaction types with specification as to whether they are considered as taxable or exempt. This is, in itself, probably indicative of the difficulties of drawing precise borders between financial and other activities.

Financial services supplied by non-financial businesses

Financial services are also provided by businesses whose primary activities are not financial in nature. For example, department stores may operate credit systems. For neutral treatment relative to financial institutions, such activities should also be exempt. However, as discussed in detail below, segregation of transactions into taxable and exempt categories gives rise to a host of definitional and input tax credit allocation problems. As a consequence, it is desirable, on operational grounds, to ignore certain financial operations of non-financial businesses in determining their deductible proportions of input taxes. However, this then leads to a requirement to identify what level or type of financial activity is permissible by non-financial firms for purposes of the tax credit calculations. Where such activities exceed the specified de minimis thresholds, the firm is treated as any other financial institution and is required to allocate a portion of its input taxes to financial services that is not deductible. Such de minimis thresholds bring their own complexities and could lead to non-neutralities in the application of tax.

For example, financial activities related to the issuance of shares and bonds and payment of dividends and interest will generally fall below the de minimis threshold of a non-financial company, and not affect its entitlement to a full deduction of its input taxes. However, where the shares and debt of the company are held by a holding company, the same activities undertaken by the holding company may cause it to exceed the de minimis threshold, if it is not directly engaged in making any taxable supplies. As a result, the holding company may not be able to moke any deduction for the input taxes.

Services incidental or supplementary to financial services

It is relatively common for the provision of a particular supply to have attached to it the supply of other services as incidental or supplementary items. A single fee may be applied for the service. However, definition issues arise if the tax status of the supplies differs.

For example, banks provide business customers chequing services and in some cases this may effectively include incidental processing of payroll information for companies. On the other hand, banks may also provide full-fledged payroll services which include certain banking services as incidental elements. While deposit services are exempt as financial services when provided on their own, and payroll services are non-financial and taxable, the tax treatment of a mixed supply of the two may depend upon the primary component of the supply. If the minority service is truly incidental, it may be preferable on compliance and administration grounds to ignore it in determining the tax status of the supply. However, because it is not always easy to determine if a component is truly incidental, this approach creates tax planning opportunities and necessitates complex administrative guidelines.

Other examples of situations where incidental supply of non-financial services may occur in conjunction with supply of financial services relate to management of investment funds, valuation of securities and custodial services.

Mixed supplies

A similar issue arises in respect of mixed supplies consisting of financial and non-financial components, where neither component is incidental to the other and a single fee is charged for the supply. With deregulation and emphasis on innovation of new products in the financial markets around the world, such mixed supplies are no longer a rare phenomenon. For example, credit card companies now offer a variety of packages to card holders, which include services such as extended warranties for products bought on credit card, discounts on merchandise purchases or travel and entertainment services, and rental car collision insurance. Mixed supplies occur even in the absence of financial innovation because of the imprecise dividing line between financial and non-financial services. For example, portfolio advisory services are usually treated as non-financial services, whereas services of buying or selling the portfolio are financial. Where the two services are provided for a single consideration, a mixed supply results.

For comparability to the situation in which the underlying components are provided separately, there would need to be an allocation of the price between the types of supply. However, this leads to complexity and the allocation system may not be easy to administer. To treat such supplies as single supplies, either taxable or exempt, creates tax planning opportunities for financial institutions through the bundling of financial and non-financial supplies. For example, under the original Canadian legislation, the mixed supply was treated as a financial service if the consideration for the financial component represents more than 50 per cent of the total consideration. This created opportunities for avoiding tax on certain non-financial supplies by bundling them as less-than-50% components of a financial service, and the legislation had to be amended to deter such tax avoidance.

Exempt vs zero-rated supplies

As was discussed in the section on the treatment of financial supplies to non-residents, there may be considerable difficulty in determining the place of supply of financial services. Credit card operations provide an interesting example of such difficulties. Credit cards are used by domestic residents for purchases abroad and by non-residents in the domestic market. While on surface credit card transactions take the form of a simple payment from the card member to the card company, in reality , the settlement of credit card balances involves a series of complex transactions among the financial institution issuing the credit card, the card member, the business establishment selling the goods and services to the card member, the financial institution initially encashing the credit card vouchers for the business establishment, and a national or international organization providing credit card clearing and settlement services to member financial institutions.

There are also examples of situations where the substance of the transaction may suggest that the supply is, in essence, of a domestic nature, but where it may nevertheless be zero-rated in the absence of special rules. Supplies of foreign exchange conversion services to tourists by a domestic establishment at a domestic location and provision of credit to a non-resident for

the purchase of real property for a real property located in the country are examples of supplies which would be zero-rated if the residence of the recipient were the sole criteria.

Interest charged under leasing and conditional sales contracts

Where property and services are supplied on credit, the consideration for the good or service is the base for the tax. The interest and other financing costs are excluded from the value for tax purposes on the basis that these represent an exempt financial service. On the other hand, lease traansactions of both an operating or financial nature may fully attract tax.

In principle, this treatment is appropriate, despite the fact that the lease payments incorporate a financing element. This is because under a lease transaction the tax on the leased property is spread over the duration of the lease or the life of the property. The taxation of interest eiement compensates the government for the resulting deferral of tax. Ignoring the administrative costs and profit mark-up of the lessor, the present discounted value of tax on lease payments should be the same as the tax that would be payable on an outright purchase of the leased property. However, in practice, the lease payments may incorporate financial services in addition to a pure interest component and financing payments in some credit purchases may include payments in respect of the good or service. There is thus the potential for bias in the treatment of various forms of purchases on credit, leases and conditional sales contracts. Special rules may be required to attempt to equate the treatment of different types of transactions and prevent avoidance activities. Also, there are situations where it is difficult to decide whether a particular arrangement constitutes a lease or credit financing.

Sale of used assets by financial institutions

Financial institutions sell used assets from time to time. The general rule would require that these sales be subject to tax. Where the asset has been used in taxable or zero-rated activities, this is appropriate in that input tax credits will have been claimed for the original purchase and application of the tax will start the process for the new owner. However, if the property has been used in exempt activities, input tax credits would not have been available in respect of the original purchase. Application of additional tax at the time of resale then leads to tax pyramiding. Moreover, even exemption of the resale does not necessarily give rise to the correct result, as the vendor will have borne tax on the remaining value of the asset and an exemption on the sale will only leave the vendor in the appropriate position if the vendor is able to pass the value of the unavailable input tax credit along in the price to the purchaser. Finally, the purchaser would then need to use the property in an exempt activity to maintain equivalence to a property that was purchased new or not resold.

The necessary rules to avoid such tax pyramiding can be complex because they must look to the use of the property by the purchaser as well as the vendor. The Canadian Goods and Services Tax (GST) rules contain provisions of this type. They are complex and have already required significant amendments. The sixth directive provides an exemption for such goods, regardless of the status of the purchases.

Sales of goods repossessed from debtors, and insurance clients

Financial institutions and insurers will sometimes come into possession of goods seized in satisfaction of debts or damaged goods on which claims have been paid. Sales of such goods

represent commercial transactions which are subject to tax. If the original purchaser of the good was not able to utilize input tax credits, double taxation results.

Solutions to this problem are difficult and likely to be at best approximations. To work exactly, they would have to take into account the tax status of the original owner as well as be in a form that can be made operational through the financial institution alone (i.e. without much additional information about the use of the property by the original owner).

Input Tax Credit Allocation

Because input tax credits are not available in respect of exempt activities, any financial institution that carries on either taxable or zero-rated activities will need to allocate their sales in some fashion between those that earn input tax credits and those that do not. The earlier section entitled "Input Tax Credit Allocation" described the potential methods of allocation and noted the diversity in allocation rules utilized. These rules are, in themselves, a significant source of complexity in the operation of the current exemption system. This section looks at some of the issues raised by the need to allocate input tax credits.

Allocation between taxable and exempt use

The problems of a general nature arising from the need to allocate input tax credits between taxable and exempt uses were touched upon in the section discussing methods of allocation. Taxpayers will need to keep specific information about usage and modify accounting systems in ways that would not otherwise be required. The diversity of methods for allocating credits may create opportunities for choosing methods which allocate more activities to taxable transactions and this may lead to disputes between taxpayers and administrators on the appropriateness of the method used. While statutory rules or regulations specifying the approach to use can increase certainty, in some cases, they can lead to inappropriate results.

Change of use

Mingling of taxable and zero-rated activities with exempt activities requires that there be change-of-use rules to adjust input tax credits when there is a significant change in the level of use in taxable as distinct from exempt activities. Such rules impose considerable record-keeping requirements on registrants.

A change-of-use will frequently occur in situations such as an amalgamation, a wind-up or other corporate reorganizations involving financial and non-financial corporations. Rules to deal with the various situations in a manner that gives appropriate results need to be detailed and this leads to complexity in the system.

Open market value of purchases from related parties

As a general rule, all sales between legal entities give rise to tax, including sales between related parties. For non-financial transactions this is of little significance, as any tax payable will give rise to input tax credits which are fully recoverable. However, financial institutions will not be able to recover the tax to the extent the inputs involved are used in exempt activities. This leads to an incentive for the value of purchases by financial institutions from related par-

ties to be minimized in the sense of understating the transfer price. This is similar to the so-called "transfer pricing problem" under the income tax, where the manipulation of the tax value of goods or services provided between affiliates can be used to transfer income among taxing jurisdictions. While the objective in the case of VAT is different, the possible techniques and the general solution are the same. Taxation authorities will wish arm's length pricing rules to apply in such situations. As is evident from the experience under the income tax, the application of this rule will often raise quite difficult administrative issues.

Group relief/consolidation of purchases by related groups

Another incentive effect arising from taxation of intra-group sales of goods or services to be used in exempt activities is a bias for self-supply. Tax can be avoided by creating the supply in-house. If possible, companies will amalgamate their subsidiaries providing taxable supplies in order to avoid the tax. However, there may be business or regulatory constraints to such reorganization.

There is clearly no rationale for favouring in-house supply of inputs and, given the essential arbitrariness of how well particular groups can be structured to limit tax, taxation authorities may elect to allow intra-group sales to financial institutions to effectively occur on a tax-free basis. This can be done by mechanisms such as deeming intra-group sales to occur for nil consideration or allowing group elections which allows related parties to be taxed as if they constituted a single entity.

Adverse Economic Effects

While the problems that have been enumerated to this point have been presented largely as issues of tax administration and compliance, it is important to note that these point to adverse economic effects which impose welfare costs on the economy. In general, these arise because the current exemption system gives rise to non-neutralities which reduce the efficiency of the economic system.

Tax on financial services to consumers

When financial services are provided directly to consumers, tax is not applied on the actual sale to consumers. However, there is no credit for any tax on inputs. The exemption thus means that financial services are taxed less heavily than other goods and services, because the effective tax rate is determined by the value of inputs to financial institutions rather than the value of the final product. There will be a tendency to over-consumption of financial services by households with attendant welfare losses.

Tax cascading

When a financial service is supplied as an intermediate step in the production process, that is as business inputs, the claiming of input tax credits earlier in the production chain is blocked by the exempt status of the financial service. However, the non-creditable tax of the financial institution will be included in the selling price of non-financial goods and services, which will be subject to VAT on the full sale price. The tax in this case cascades, that is it applies on both inputs and the final selling price. Thus, for sales of other goods and services which include

financial services as inputs, there is over-taxation relative to other goods and services. This will tend to lead to under-consumption of goods and services incorporating financial services.

International competition

Financial services supplied by offshore financial institutions have a tax advantage over those supplied by domestic institutions. In the case of both households and business firms, the services supplied by foreign institutions are free of VAT (either because of zero-rating or the absence of VAT in the foreign jurisdiction), while domestic supplies include the VAT on the inputs of financial institutions. This creates incentives for foreign supply of financial services, which is obviously undesirable from the domestic perspective[4].

It might be noted that in the case of trading partners where both have VAT systems (exempting domestic financial services, zero-rating financial service exports), there would be an equivalent tax advantage to the domestic financial institutions making supplies to the households and business firms in the other country. This is similar to the situation where export subsidies create incentives for cross-trading internationally, where each country is supplied by foreign suppliers. This is obviously an inefficient solution from the perspective of both countries.

The EC system of exemption between member countries places all EC financial institutions on the same footing insofar as there is no rate or structural differences in the tax systems among member states. It is thus more neutral between competing institutions. However, this is at the expense of greater cascading of tax. Moreover, because of the differences in the input tax allocation rules, the deductible proportion of input taxes is far from uniform for financial institutions located in different member states.

Self-supply bias

The exemption for financial services creates an incentive for financial institutions to self-supply inputs. This provides a means by which input taxes can be avoided in the production of financial services. The self-supply bias is not limited to an in-house supply of certain inputs, e.g. in-house printing or construction. It is, in fact, much broader and includes any substitution of employee labor (and other inputs that are exempt of the tax) for other taxable factors of production that are acquired from third parties. The exemption system creates a wedge between the pre- and post-tax price of labor relative to the price of non-labor inputs. This, in turn, results in inefficiencies in the production and delivery of financial services.

There are numerous ways in which such inefficiencies could occur. Take, for example, the production of computer software for banking operations. If the software is acquired from another firm, it attracts VAT. If it is produced in-house by the employees of the financial institution, the tax is avoided. In Canada, the sale of insurance policies is arranged through insurance agents, who could be employees of the insurance company or independent contractors. It the services of insurance agents were taxable, a serious bias would be created against the use of agents who are indepedent contractors and who would be required to charge tax on their ser-

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[4] A discussion of the problems of international competition and taxation of financial sources in global markets can be found in Poddar and Grance (1988).

vices. There would be no tax on identical services provided by the employees of the insurance company. It was to avoid such biases that Canada decided to extend the exemption for financial services to the services of agents.

Government revenue implications

By exempting financial services, government tax revenues are altered from what they would otherwise be. However, in a theoretical sense, it is not clear whether revenues will be higher or lower as this depends on the relative importance of tax cascading in respect of business inputs of financial institutions to the failure to tax household consumption of financial services. The exemption system results in a net increase in tax on financial services provided to business firms (equal to the non-creditable tax on the associated inputs of the financial institution) and a net decrease in tax on the services provided to housefolds (equal to tax rate times that portion of the consideration for the services that represents value-added by the financial institution). Overall impact will vary from country to country, depending upon the relative weight of the two factors. Even where the overall result is a net reduction in tax or loss in government revenues, the impact will vary significantly across institutions and types of services. For example, in the case of an insurance company providing property insurance exclusively to commercial enterprises, the exemption for insurance services leads to an unequivocal increase in tax.

There are several other factors which could have an impact on the overall revenue loss or gain from the exemption system. First, to the extent that financial institutions adopt successful tax planning strategies in respect of minimizing taxable business inputs, the extent of tax cascading will be limited. Second, rules such as options to allow financial services to be taxable may lead to self-selection effects, which reduce the extent of cascading while the level of tax on non-taxable consumer intermediation services is unchanged. Third, international cross-trading may increase the level of zero-rated services as a proportion of activity in all countries. Finally, innovative ways may be found to provide non-financial services as incidental or mixed supplies with financial services or even to substitute financial services for non-financial ones.

Taxation of imported services as inputs to a financial institution

The general rule is that tax be paid on any imports of taxable supplies. If the tax is not collected at the border (as in the case of services or supplies of intangible property), the importer may be required to self-assess the tax. This is necessary, in particular, in the case of importers who are not engaged in the making of taxable supplies and would not be able to claim a credit for the tax self-assessed. While the self-assessment requirement is appropriate from an economic perspective, it lead to complexity in compliance and administration. There are a variety of questions that need to addressed. These relate to the valuation of services provided by a related company, the timing of self-assessment, and the scope of the tax, i.e. whether it should apply to all foreign purchases of services, or only those that are acquired for importation and use in the country. For example, if an employee of a financial institution goes abroad for management training, should the training services consumed abroad be subject to self-assessment. How about the travel and accommodation costs incurred abroad during the training period?

PART 3

VALUE OF FINANCIAL SERVICES

This section looks at the issue of what constitutes value of financial services in the different types of financial activity undertaken. This discussion serves as background to identify the appropriate tax base for financial services and also to explain the nature of the difficulty in taxing financial services.

EXPLICIT AND IMPLICIT CHARGES

The value-added[5] in financial activities consists of two components:
- Explicit fees and commissions
- Implicit charges in the form of margin

In the case of explicit fees and commissions, financial services are charged for in the same way that other non-financial services, such as car repairs or admission charges to entertainment activities or sports events. For example, there are typically explicit fees applied to rental of safety deposit boxes, certain trustee services and the issuance of travelers' cheques. In principle, there is no conceptual difficulty in applying the tax in such cases. Indeed, as noted earlier, the financial services which are explicitly made subject to tax under the VAT systems of various countries generally are of this type.

However, the value added which arises as an implicit charge in the form of a margin on the exchange of funds in financial transactions is a quite different matter. As will be outlined for each of the major categories of financial services, the financial flows that arise will consist of transfers of funds from savers to investors and consumers, pure interest charges which reflect a return related to timing of consumption, a risk premium to adjust for losses and the intermediation services of the financial institution. It is only the final element of the four which is value added and which should be in a VAT base. However, the charges for this intermediation service will be mingled in the other financial flows among saver, intermediary and investor or consumer. In many cases, it will not be possible to identify the actual margin associated with financial intermediation in a particular transaction, particularly as cross-subsidization of transactions is not uncommon. It is this inability to isolate the margin on particular transactions which is at the root of the difficulty in taxing financial services. On the other hand, the margin is potentially measurable on an aggregate basis and this has provided the jumping off point for a number of proposals for alternative ways of taxing such services.

While it is possible to tax explicit fees and commissions where they exist, with exemption applying only for those services contained in margins, this does create incentives to substitute margins for explicit fees and commissions. A simple example of the potential for this can be seen in the financial services provided by a broker. The broker can charge a commission for arranging the purchase or sale of a security. This represents explicit commission for the broker's services. However, the broker can also purchase the security from the seller at a discount and sell to the buyer at a premium over the purchase price and obtain the fee for the intermediation services as the spread between the two. This is illustrated in Chart 3. A system that only taxed explicit fees would create an obvious incentive to make payments for financial services take the form of a margin on transactions wherever practicable.

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[5] In this report, the phraser 'value-added in financial sources' and 'value of financial services' are used interchangeably strictly speahing, value-added is the value of financial services less the cost of inputs from other businesses. The two are aquat only where input purchases are zero.

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                                CHART 3

                            Fees vs Margin


    Fees for Brokerage Services

        Security Purchase Commission                              5

        Security Sale Commission                                  5

        Value of Brokerage Services                             10


    Margin Charge for Brokerage Services

        Security Purchase by Broker                             95

        Security Sale by Broker                                105

        Value of Brokerage Services                            10
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Value of Banking and Insurance Services

At an aggregate level, it is possible, at least conceptually, to identify the nature of the margin in various types of financial activity. Each of the major categories of banking, life insurance and property & casualty insurance involve some variations in the conceptual issues surrounding the identification of value-added and the potential persons involved in the transactions (business, households or others, such as governments or non-profit organizations). Charts 4, 5 and 6 set out simple schematic representations of value added and identify potential participants in the transactions.

In Chart 4, the value of banking services is shown as the $80 spread between the interest received by savers ($70) and paid by borrowers ($150). It is this spread or margin that is used by the financial institution to provide compensation to its and employees and shareholders and to cover the cost of other inputs, such stationary, equipment, buildings, and utilities. This needs to be segregated from the various other flows that can be identified. First, there is the transfer of $1,000 in funds as a deposit by the savers and the subsequent transfer of a $1,000 loan to the borrowers. This is merely a transfer of funds and does not represent value added, nor does the eventual repayment of these funds. Second, there are flows representing interest paid by the borrowers of $150 and the interest received by the depositors of $70. These also do not represent value added. Indeed, one of the reasons typically cited for exempting financial services from tax is to ensure that interest payments are not inadvertently subject to the tax as this could discourage saving. Third, although not explicitly identified in the chart, interest

received by the bank may include compensation for the risk of loan default. If so, this element also needs to be subtracted from the spread to arrive at the taxable value of banking services. While it is not feasible to identify the risk premium under each loan contract, at the aggregate level it can be measured simply by the amount of loan losses actually suffered by the bank during a given period.

Conceptually, the existence of margin between interest recived and interest paid by the bank implies an existence of intermediation services. If the bank were not providing any services that were of some value to the borrowers and lenders, then the interest paid by the borrower would have been the same as interest charged by the lender. Of course, the margin could be zero or negative in a given period, even if the bank were providing valuable intermediation services. This could occur because of the normal market forces, e.g., due to the bank under-pricing its services, or underestimating its costs.

Chart 5 sets out the nature of financial transactions involved in the case of life insurance. These are typically multi-period arrangements which combine risk-pooling and savings elements. In the example, a premium amounting to $1,000 is paid. These funds are then invested to yield a return of $200. There is a claim or encashment of the surrender value of the policies which amount to $1,100. Again, neither the premiums, claims or policy surrenders which are all transfers of funds, nor the interest earned, which relates to the payment to savers for deferral of consumption, measure the value of financial services provided by the insurance company. The value of the services is the $100 of margin between the total receipts of the insurer and its disbursements.

Chart 6 relates to an example for property & casualty insurance. While the participants and the nature of the claims are somewhat different than in the life insurance example, the underlying interpretation of the basic value-added flow of $100 is the same. A unique aspect of the property and casualty case is that the settlement of the claim will in itself often lead directly to new consumption as a replacement property is purchased either by the claimant or the insurance company.

CHART 4

BANKING

Households   Business   Other

Loans   1,000 → Interest Received   150

Deposits   1,000 → Interest Paid   (70)

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Value of Banking Services   80

Households   Business   Other

CHART 5

LIFE INSURANCE

Individuals

	Premiums	1,000

Premiums

	Interest	200

Investments

Death Claims   **Policy Surrenders**

	Claims/ Surrenders	(1,100)

	Value of Insurance Services	100
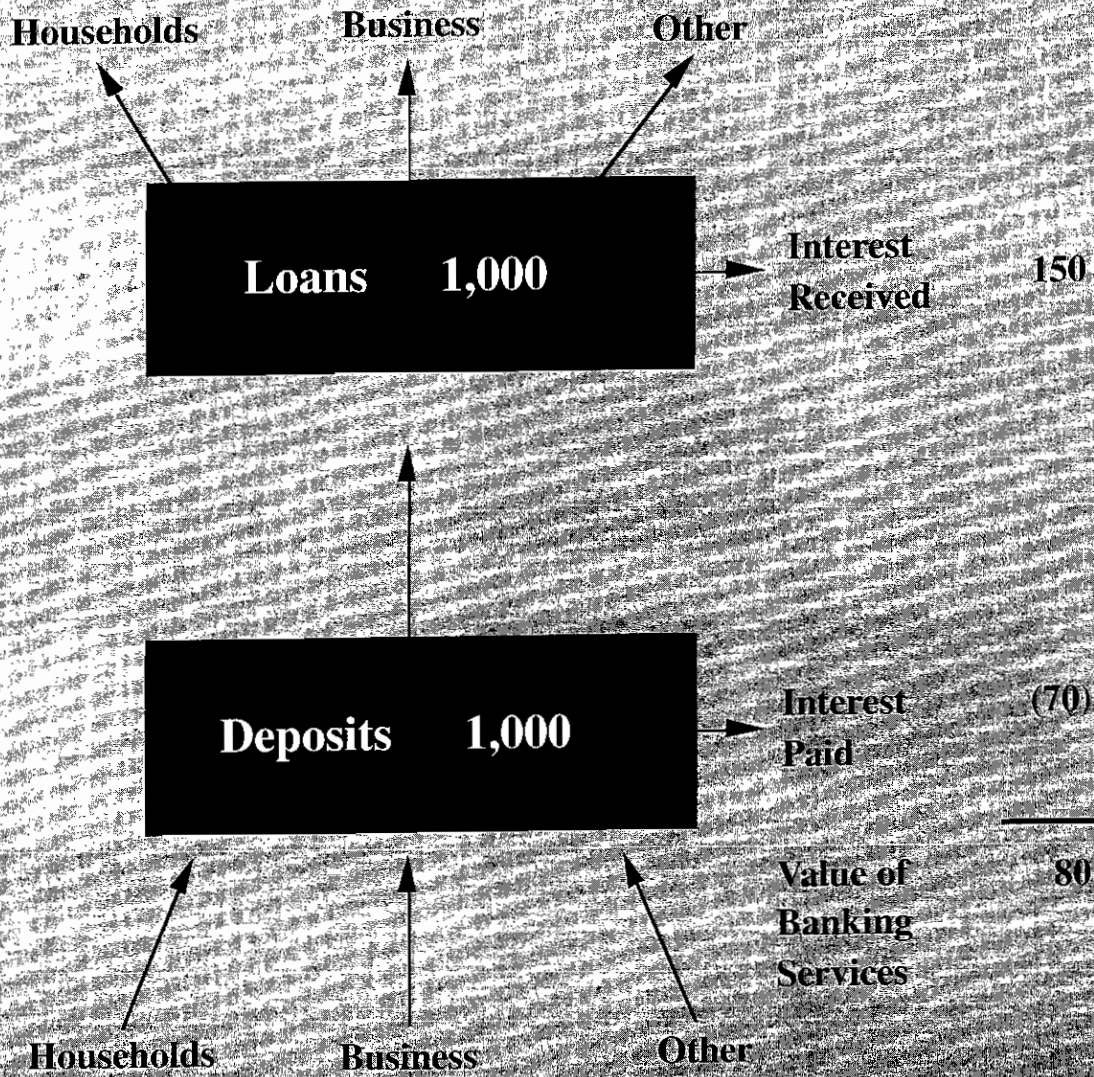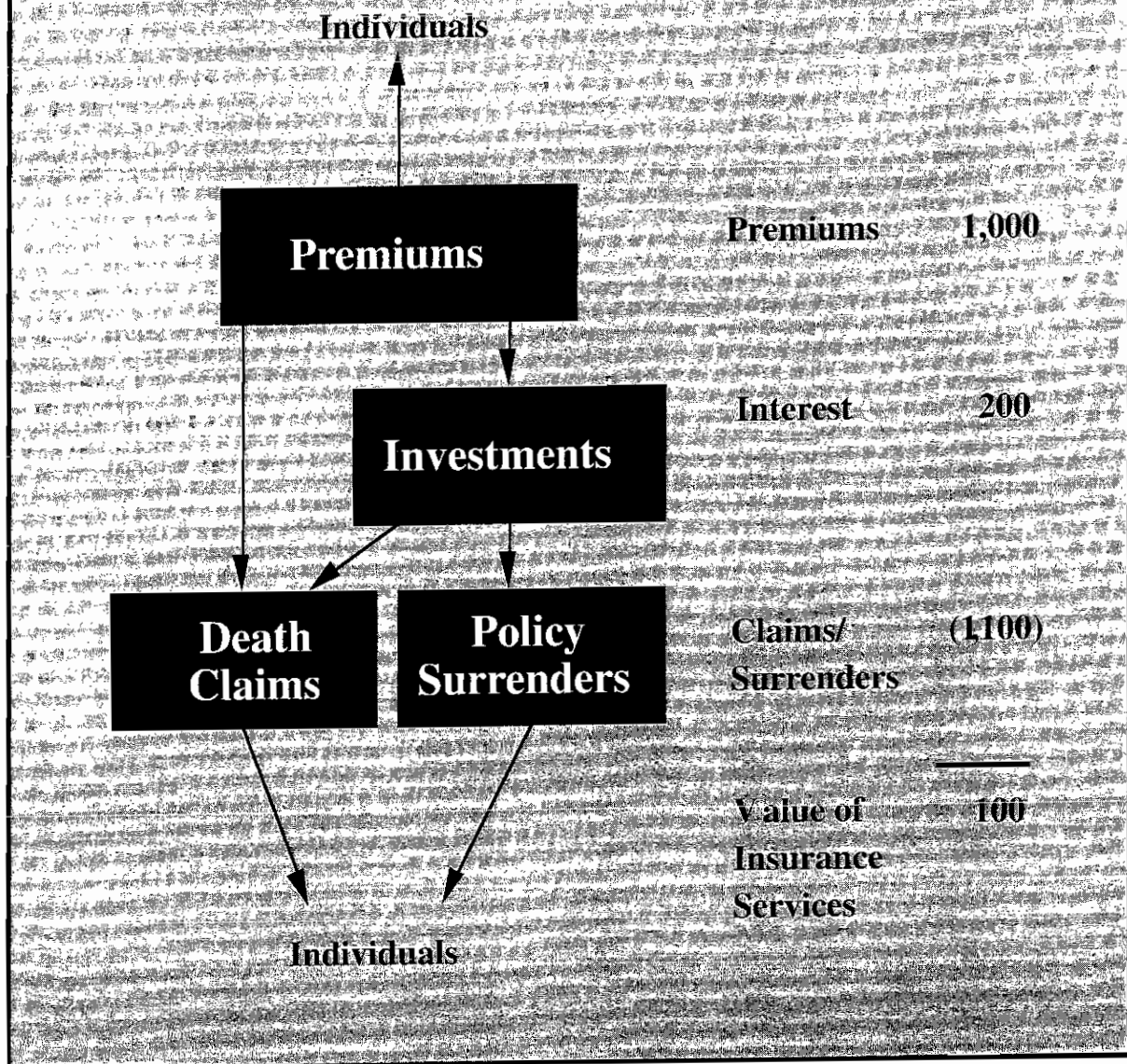
Individuals

CHART 6

PROPERTY & CASUALTY INSURANCE

Households   Business   Other

| Premiums | | Premiums | 1,000 |

| Investments | | Interest | 200 |

| Damage/Loss Claims | | Claims | (1,100) |

Households   Business   Other

Value of Insurance Services   100
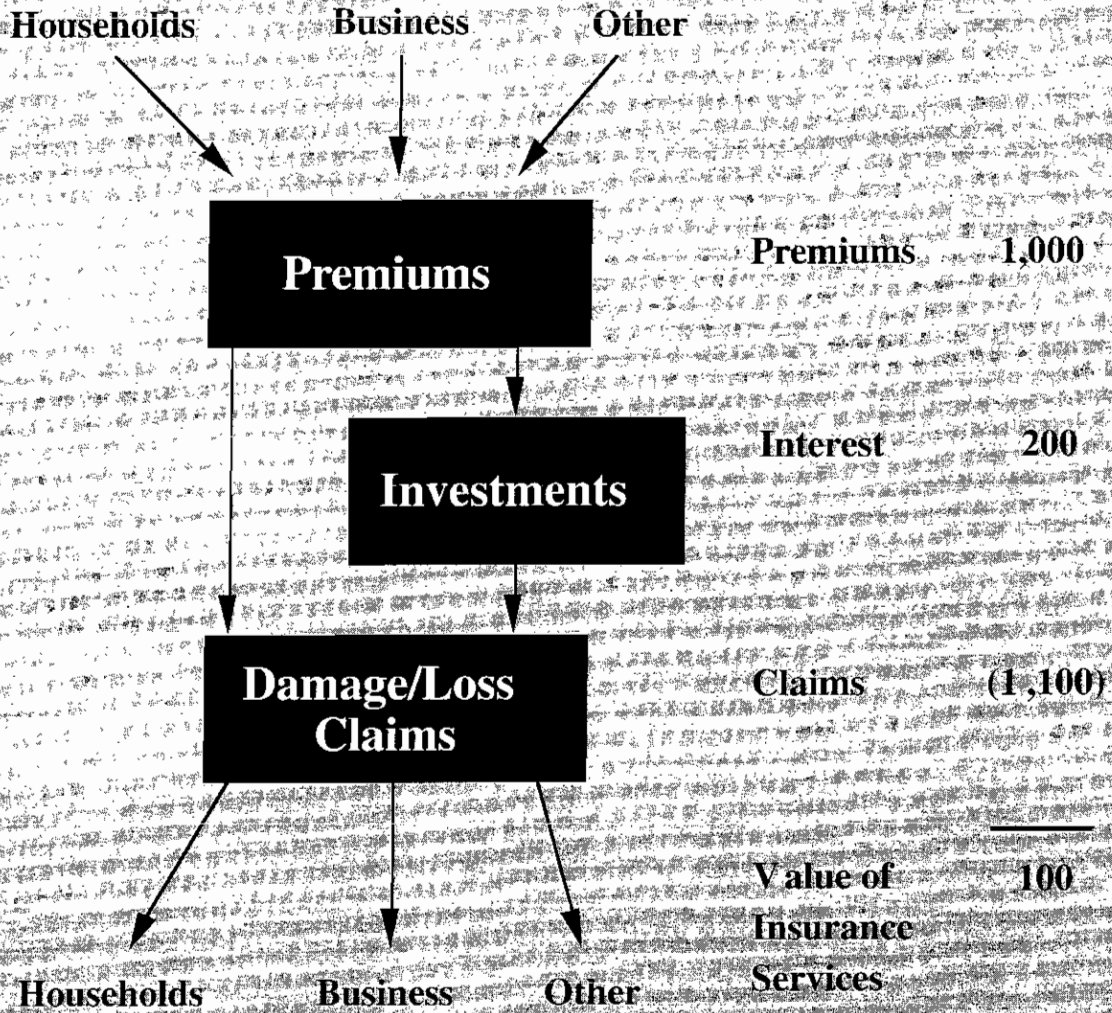
Allocation of Margin to Individual Transactions

The previous section described the proper valuation of intermediation services under different types of financial transactions.However, it is important to note that this valuation is feasible only at an aggregate level for all the transactions of a given class or line of business for a given financial institution. The illustrative examples given in the charts cannot be interpreted as representing single transactions and thus used as the basis for measuring the value of services on a transaction by transaction basis.

The tax could be applied to a financial institution on an aggregate basis, if all of its services were provided to households who do not need to know the tax content of their transactions with the institutions. In that case, the institution would charge tax on its gross margin, as defined in the earlier section, and claim a credit for any tax paid on its purchases of business inputs. The net tax would be the tax on its value added (which is measured by the difference between its gross margin and the cost of its purchased inputs). However, if its customers included business firms who were acquiring financial services as inputs to other taxable goods and services, then they would need to know the tax content of their purchases of financial services that they could claim as an input tax credit. Thus, a mechanism has to be found to determine the tax component of each individual transaction.

Deposit and loan services

In the case of a banking transaction, a hypothetical allocation can be made under certain assumptions. Chart 7 sets out such an allocation where interest of 7 per cent is paid to the depositor and interest of 15 per cent is charged to the borrower. If the pure interest rate, which is the interest rate that would be charged on a direct loan with no intermediation services and where there is no risk of default, is 12 per cent, then the value added by the intermediary is 5 per cent for the depositor and 3 per cent for the borrower (ignoring the portion set aside to fund loan losses on a portfolio of loans). The depositor's value added comes from the package of liquidity and risk avoidance provided in the form of the deposit, while the value added to the borrower comes from the savings in transaction cost from dealing with an intermediary.

CHART 7

Allocation of Margin to Individual Transactions

Assume:

Interest on Deposit

Interest on Loan 15%

Pure rate of Interest (Interest on a loan directly from a lender to a borrower with zero risk of default)

Value of services to depositor

Value of services to borrower

While the hypothetical example allocates margin between a single borrower and a single lender, this is not generally possible for deposit and lending services. The pure rate of interest is not directly observable and constantly changes, and there is really a mixture of services provided in the deposit and loan process. As already noted, lending activities contain a risk-pooling process which functions as a type of insurance against loan defaults. Individual depositors do not have the safety of their funds contingent on the performance of single loans, but rather upon the whole portfolio of loans of the institution. There is thus an element of insurance in intermediation between borrowers and lenders. When such considerations are taken into account, there is no precise way of allocating margin on a transaction by transaction basis in respect of deposit and lending services provided by banks.

Insurance

Insurance, in its pure form, is a major type of financial transaction where the margin can be specifically identified. Pure insurance would refer to a case where there is no return to savings in the financial flows involved. The entire premium can then be viewed as a charge for insurance services, and the insurer's margin is the excess of premiums over claims. However, even in this case, the value added cannot be determined by looking at a single transaction, as it is determined by the pooled results of the insurer.

Moreover, cases of pure insurance are rare. Even property & casualty insurance and term insurance typically have savings elements introduced because of two reasons. First, the insurance applies over a period of time and the premiums can be invested and earn a return while waiting for the claims to occur and be settled. Second, where the insurance contract runs for more than one period, premiums are often level (i.e. constant amounts per period), even though the expected risks increase over time. Under such arrangements, the level premiums are set so that they exceed the normal cost of insurance in the earlier period. This excess serves to compensate for the increase in expected risks in the later periods and is a form of saving that is invested by the insurer on behalf of the insured.

Where premiums include a savings element (i.e. they exceed the pure cost of insurance), the margin of insurers includes a charge for banking services. This introduces the same difficulties as discussed in the previous section on loans and deposits. In the case of most types of insurance, such as whole life and annuities, the savings component is quite important.

This can be used to rationalize the variable treatment of insurance under existing VAT systems. Life insurance, which often incorporates an important savings element, is universally exempt. Other types of insurance, such as property & casualty insurance and warranty programs, which do not include a significant savings element, may or may not be taxable. There is a potential structure available for taxation of insurance with little or no savings element. It leads to the correct outcome and is compatible with the credit-invoice tax structure in the sense that input tax credits can be properly allocated even though the margin on individual insurance policies is not observable. This structure involves taxation of premiums coupled with appropriate rules for input tax credits in respect of insurance claims.[6]

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[6] The alternative method is, in fact, an example of one of the alternative approaches to taxation of financial services, the cash-flow approach. This approach is analyzed in more detail for non-insurance financial intermediation later.

Extended warranties for products can be cited as an example of insurance services that can be appropriately taxed in conjunction with a credit-invoice VAT despite the fact that margins are not identifiable on an individual transaction basis. The appropriate structure involves making the full warranty charge taxable. From the perspective of the warranty purchaser , this charge includes a payment for the insurance intermediation services and a charge for the expected value of the replacement parts. This is exactly equal to the consumption of real goods and services in the economy, although it is not apparent at the individual level how this is allocated between the two components. When the purchaser is a business, an input tax credit can be claimed for the tax paid on the warranty premium.

When there is a claim, the insurance company purchases the necessary replacement parts, incurs the tax for which it can claim an input tax credit. There is no tax on the supply of replacement parts from the insurer to the customer, since there is no consideration charged for the supply under the warranty insurance. If the customer is a consumer, the net result is that the tax is collected on the value of replacement parts and inssurance intermediation services.

It is useful to go through a specific example as it both clarifies the steps involved and introduces concepts that will be relevant for subsequent discussion. The basic example is that shown in Chart 5, where the insurance is in the form of an extended warranty. The premiums are assumed to be paid at the start of the warranty period and all claims occur at the end of the period. The results are not affected if the claims occur over time. The premiums for the warranty are $1,000 and the insurer earns interest of $200. Claims of $1,100 are made to replace goods. The value of the insurer's services is thus $100. Total consumption is $1,200, consisting of the replacement goods and the insurance value added. With a valued added tax at a rate of 15 per cent, the government should have revenues of $180 on this consumption, if it all occurs at the household level.

The illustration in Table 1 shows how this result is obtained by fully taxing the warranty premiums and the replacement goods bought by the insurer, while providing an input tax credit in respect of the insurer's purchases. The key factor is the receipt of the revenues on the insurance premiums at the start of the warranty period, which allows the government to earn interest over the period. The interest earned is at a rate of 20 per cent, which is the same as the rate earned by the insurer. It is this factor which makes the taxation of premiums with input tax credits for the replacement purchases equivalent to taxation of the actual value-added flows.

If the warranty claim is settled in cash, then the insurance company is allowed the same input tax credit as when it purchases the replacement parts. The tax that was previously charged by the suppplier of parts to the insurance company, would now be charged by the supplier to the household when it uses the proceeds of claim settlement to buy the replacement parts. The net outcome is thus the same.

Table 1

Application of VAT to the supply
of an Extended Warranty to a Household

Transaction	VAT Liability	Input Tax Credit	Government Receipts
Insurance Premium of $1,000	$150		$150
Government Interest			$30
Sale of Replacement Goods	$165		$165
Purchase of Replacement Goods		($165)	($165)
Net Government Receipts			$180

A similar example is presented in Table 2, where the warranty is in respect of goods which are inputs for a business. In this case, there should be no net revenue collected by the government. As the example shows, the alternative approach of taxing premiums and providing input tax credits for VAT paid works correctly in that no net tax is collected. It should again be noted that the system yields the correct result only where the tax and input tax credits are coincident and the interest obtained by the government is at the same rate as that earned by the insurer.

Table 2

Application of VAT to the supply
of an Extended Warranty to a business firm

Transaction	VAT Liability	Input Tax Credit	Government Receipts
Receipt of Insurance Premium of $1,000	$150		$150
Payment of Insurance Premium of $1,000		($150)	($150)
Government Interest			$0
Sale of Replacement Goods	$165		$165
Purchase of Replacement Goods		($165)	($165)
Net Government Receipts			$0

OTHER TRANSACTIONS

The spread between financial inflows and outflows, as defined above in the case of banking and insurance services, is the correct measure of the value of services in virtually all other financial transactions for which explicit fees or commissions are not charged. For example, where security brokers and dealers act as principals (and not as agents), the value of their services is measured by the difference between the selling and buying prices of the securities, plus any interest and dividends earned while the securities were held by them. In the case of credit card companies, the margin would include their interest income from card members, net of the interest on the financing of credit card receivables, and any explicit fees and commissions charged to the merchants or card members. Generally, merchants provide consideration to credit card companies for their services in the form of a discount on the credit receivables bought by the credit card companies, and not in the form of an explicit fee. In such cases, the margin would also include the difference between the buying and the selling prices of the receivable. As in the case of banking and insurance transactions, there is no simple method of allocating the margin for such activities to individual transactions.

PART 4

ALTERNATIVE METHODS FOR TAXATION OF FINANCIAL SERVICES

The previous sections have set out the present dominant method of treating financial services for VAT (namely exemption for domestic services and zero-rating for exported services) as well as some of the problems and issues that arise. It would seem reasonable to bring financial services into the VAT system in order to eliminate or avoid the difficulties associated with exemption. However, the previous discussion has also pointed out the unique characteristics of financial services which make it difficult to apply the tax to them under the traditional credit invoice system. Various alternatives have been suggested to deal with these problems. This section reviews these in some detail.

The principal alternatives that have been considered in the literature are:
- Traditional credit-invoice method
- Addition method
- Cash-flow method
- Subtraction method
- Ad hoc methods

The credit-invoice method would involve the extension of the general system used for other goods and services in almost all current VAT systems to financial services. The addition and subtraction methods refer to alternative methods of calculating value-added tax which give identical results to the credit-invoice method under certain conditions. The former method measures value-added by adding up its components, while the latter determines it as the difference between purchases and sales. Tax is then applied directly to the value-added of each business. It is natural to consider whether one of these alternative could be adapted to apply to financial services.

The cash flow method retains most of the characteristics of the credit-invoice system, but incorporates special features to recognize the financial payments which are involved in financial transactions. Ad hoc methods apply taxes to exempt services on a different basis, almost entirely as an attempt to offset revenue losses associated with exemption.

A discussion of each of these approaches follows in turn below.

TRADITIONAL CREDIT-INVOICE METHOD

The most straightforward alternative to exemption would be to extend the credit-invoice method to financial services. This would be simple to do where fees and commissions are charged to business and household purchasers of the services. In fact, there are several services provided by financial institutions, such as safety deposit box rentals, where it is the norm for VAT to apply. However, as has been discussed in detail earlier, the majority of the major financial services are not sold under commission or for explicit fees. Typically the charge for the service is not explicit, but rather takes the form of a portion of the margin earned from intermediation between savers and borrowers.

The credit-invoice system operates by charging tax at each level in a chain of activity , which is invoiced to purchasers as part of their purchase documentation. The VAT shown as paid on the invoice then provides the necessary verification for businesses to claim input tax credits in respect of their business purchases. With financial services, the only directly observable values in transactions are transfers of funds (which should not be taxed) and the gross margin (only a portion of which should usually be taxed). There is thus no base to apply the tax in a way that is comparable to other transactions outside the financial services sector. The operational requirements for the straightforward credit-invoice system to work are thus not satisfied.

It has been observed that it is possible to identify certain services that are charged on a fee for service basis. As far as the transactions themselves are concerned, these can readily be incorporated into a credit-invoice VAT. However, this approach is limited in both its applicability and the benefits derived. First, it creates an incentive for financial institutions to use implicit charges in the form of margins whenever this is possible on sales to households. Second, except in the rare cases where it is the only service provided, the financial institution is faced with allocating credits between taxable and exempt supplies in order to determine eligibility to claim input tax credits.

New Zealand has extended the credit-invoice method to include property and casualty insurance under its Goods and Services Tax (GST). This system is analogous to the system which was described earlier for warranties and functions because of the considerations outlined there. Under the New Zealand system, the tax applies to the full amount of premiums, and input tax credits are available in respect of the tax paid on premiums by businesses (but not households) and in respect of replacement purchase of the insurance company.

With property and casualty insurance, the insurer may settle the claim in cash, rather than paying for actual repairs or replacement goods. This can also be handled correctly under the system. Claims payments are treated as a taxable supply from the claimant to the insurer. As a result, the insurance company grosses up the value of the claims to include an amount for the GST and claims an input tax credit in respect of this gross-up. This gross-up compensates the household for the tax that would be charged on the eventual purchase of replacement goods. A business claimant would include the gross-up in its output VAT liability. It pays the GST on its purchases, but claims it back as an input tax credit.

While this system produces identical results to a system which taxes value added directly under a credit-invoice method under certain assumptions, it may not be accurate in other cases. It has already been noted that equivalence depends upon the insurer and the government earning the same rate of return. This is not an unreasonable assumption, and even where the two rates differ, the distortions would not be serious if the savings element of insurance premiums is small or insignificant.

ADDITION METHOD

The addition method is based on the fact that a firm's value added equal the compensation paid or payable to its employees and owners. In its simplest form, the tax could be applied to the total of wages and salaries and profits of the firm. Further refinements may be necessary to bring the tax base in closer conformity with the base under the traditional consumption-type VAT. For example, if profits are calculated under the income tax accrual accounting concepts,

a deduction would have been allowed in the calculation of profits for only a portion of capital expenditures. The deductible amount is referred to as depreciation or capital cost allowance. Under a consumption tax base, capital expenditures should be fully deductible when incurred.

The VAT could be extended to financial institutions under the addition method, with the tax base defined as the sum of wages and profits, less a deduction for that portion of capital expenditures incurred in the year that has not already been deducted in the computation of profits. Financial institutions would not be allowed to claim input tax credits, because the tax base excludes the cost of taxable goods and services purchased as inputs.

It is useful to note that, in the case of non-financial institutions, value-added under the addition method is defined to include wages, profits, and interest paid to creditors. The addition of interest in the base reflects the fact it has been deducted in computing profits, even though it does not attract tax in the hands of recipient. A deduction should be allowed for only those cost components on which tax has already been charged. This reasoning does not apply to financial institutions. In their case, profits are calculated by including all interest receipts and claiming a deduction of interest expenses. If interest paid to their creditors/depositors is added back to their base, the VAT would effectively apply to the gross interest, and not just the interest margin. This would be an inappropriate result, as discussed earlier.

Israel and the State of Michigan in the U.S.A. have a tax of this type. Some of the ad hoc systems used for applying tax to financial services can also be viewed as variants of the addition method. For example, the Province of Quebec zero-rates financial services under value-added tax, but imposes compensatory taxes on financial institutions in the form of supplementary payroll and profit taxes and a tax on insurance premiums.

Various studies have discussed the situations in which the tax base under this approach is identical to a credit-invoice approach and the difficulties that would arise in implementing such a tax. (For example, see Henderson 1988) It is generally considered that the addition method is the least manageable method of implementing a consumption type of sales tax. The following is a discussion of the main difficulties that arise under the addition method.

Difficulties with Addition Method

Incompatibility with credit-invoice system for non-financial supplies

The addition method does provide a reasonable measure of value-added by financial institutions that could be made subject to a VAT. If the only interaction of financial institutions was with households, the financial institutions could pass on the tax in supply prices and the tax would function as an unbiased general sales tax. However, financial institutions also supply services to other businesses. The addition method does not deal with the key issue of determining value added on a transaction by transaction basis, which is necessary to allow these businesses to be invoiced the value added tax paid the financial institutions. Without the identification of the underlying tax, cascading will occur.

In addition, if a financial institution is making supplies of both financial and non-financial services, then its tax base consisting of total wages and profits would include value-added for both types of supplies. If the tax is already being collected on non-financial supplies under the credit-invoice system, then it is inappropriate to include wages and profits associated with those supplies in the base subject to tax under the addition method. At the same time, it is necessary to allow input tax credits in respect of purchases for use in making non-financial supplies. Thus, a proper calculation of tax requires an allocation of input taxes as well as wages and profits between financial and non-financial activities of the institution. Such allocations would be even more complex than those required under the exemption system for financial services.

Therefore, the addition method is not compatible with a credit-invoice system elsewhere in the tax system. It does not deal with the basic problem that exists in the exemption system of tax cascading where financial services are intermediate steps in the supply chain.

Origin-basis

The addition method is fundamentally an origin-based tax. It determines the aggregate value added contributed by its employees and owners. It does not look to the destination of the supplies in the basic tax calculation. As a result, there is no simple way to exclude value-added related to export services.

Non-suitability of income tax calculation of profits

To simplify compliance, the measure of profit under the addition method VAT is traditionally presumed to be the same as that defined for income tax purposes. The income tax measure of profits is not suitable for VAT for two main reasons. First, as noted earlier, under a consumption-type VAT, all capital and current expenditures should be fully deductible when incurred. For income tax purposes, the deduction for capital expenditures is amortized over the life of capital property. No deduction is allowed for non-depreciables such as land, and the deduction for inventories is allowed only when the goods are resold. Second, under an income tax system, revenue receipts are generally included in profit calculations on accrual basis, i.e. over the periods to which they relate. For example, prepayments for supplies are brought into the base only in the year when the supplies are made. By contrast, prepayments attract VAT when the payment is made, regardless of the time of supply.

There may be other features of the income tax system that render the income tax measure of profits unsuitable for VAT purposes. For example, income tax may not require full inclusion of proceeds of sale of capital properties in the base because of preferential treatment of capital gains. It may allow deductions for charitable donations, payroll and property taxes, and purchases of supplies that are exempt under the VAT. All such items should be added back to the base to arrive at a proper base for a VAT.

Because of such difficulties, the addition method is, at best, an ad hoc method of applying VAT to financial institutions. It does not appear suitable for advanced industrial economies, where financial insitutions provide a mix of financial and non-financial services and are subject to international competition.

CASH-FLOW METHOD

The cash-flow method which has received considerable attention in the literature, both as a substitute for the corporate income tax, and as an alternative form of VAT. The method is described in considerable detail in Meade. Barham, Poddar and Whalley, and Hoffman, Poddar and Whalley discuss it specifically in the context of the application of a VAT to financial services. As this is the system that has the greatest potential of being made operational, it is discussed in detail below.

Summary Description

In order to start the discussion, it is useful to set out a brief summary description of the cash flow method. More detailed discussions of certain design characteristics will be added as necessary.

The cash-flow method treats cash flows from financial transactions in the same fashion as flows from non-financial purchases and sales. Cash inflows from financial transactions are treated as taxable sales and cash outflows are treated as purchases of taxable inputs.

Enterprises that are registered for the tax are required to remit tax on all cash inflows from financial transactions, with the exception of inflows related to share transactions. They are allowed to claim a tax credit for cash outflows in respect of all non-share financial transactions. For example, a bank would be required to remit tax on a deposit and could claim an input tax credit on a loan made. The loan repayment (a cash inflow) and the associated interest would also require the remitting of tax. A deposit withdrawal would create an input tax credit claim, as would interest paid on the deposit.

Transactions with non-residents are ignored for purposes of the tax. Inflows and outflows are neither taxable, nor creditable.

All registrants, including financial institutions, charge tax on non-financial supplies in the normal manner under the credit-invoice system, and are allowed to claim full input tax credits for supplies acquired for use in financial as well as non-financial activities.

Illustrative Examples

In order to bring out the nature of the cash-flow method, it is useful to rely on a set of illustrative examples. These deal with the various domestic and export transactions that can occur. The examples provided cover a wide range of financial transactions. Their purpose is to show how the cash-flow method taxes the intermediation services provided by the financial institution which are hidden in the margin on financial transactions.

For purpose of these illustrative examples, a common set of assumptions about interest rates, the value of services and the rate of VAT are used in order to facilitate comparisons of different situations. These are set out in Chart 8. The examples are based on the assumption that the government can earn a certain rate of return on its cash balances which is the pure rate of interest. This would be equivalent to the "risk-free" return that a national government would

pay on its short-term debt. The value of the services provided by the bank to the depositor is determined by the difference between this government rate of interest (12 per cent, in the example) and the rate of interest paid on deposits (7 per cent, in the example). The value of the services to the consumer is thus 5 per cent. The value of the intermediation services provided by the bank to the borrower is the difference (3 per cent, in the example) between the government rate of interest and the loan interest (15 per cent, in the examples). The VAT rate is 10 per cent. The interest rates are assumed to include the tax changed an the volue of financial services.

CHART 8

Commou Assumption
For Illustrative Examples

Deposit Interest	7%
Loan Interest	15%
Pure Rate of Interest = Interest earned by government	12%
Value of Services to depositor	5%
Value of Services to borrower	3%
Total Value of Financial Services	8%
VAT Rate	10%

The various cases considered are summarized in the following list:

Cash-Flow Tax: Illustrative Examples

- *Exclusively Domestic Transactions:*
  A: Consumer depositor, consumer borrower (Chart 9)
  B: Consumer depositor, business borrower (Chart 10)
  C: Business depositor, consumer borrower (Chart 11)
  D: Business depositor, business borrower (Chart 12)

- *Mixed Domestic and Export Transactions:*
  E: Resident consumer depositor, consumer, non-resident borrower (Chart 13)
  F: Non-resident depositor, resident consumer borrower (Chart 14)

- *Exclusively Export Transactions*
  G: Non-resident depositor, non-resident borrower (Chart 15)

Cases A and B involving a deposit by a consumer is considered first. In Chart 9, the borrower is also a consumer. In Chart 10, the borrower is a business. Taking Chart 9 first, there is a deposit by the consumer and a loan by the bank (or other deposit-taking financial institution). The cash inflow and cash outflow from the bank are equal at $100. The bank would be required to remit $10 in tax as a result of the cash inflow from the deposit, but the input tax credit earned as a result of the cash outflow associated with the loan creates an offsetting $10 credit. Net tax remitted to the government in period 1 is $0. In period 2, repayment of the loan and withdrawal of the deposit creates another offsetting tax liability and credit. However, the cash inflow of $15 for loan interest creates a tax liability of $1.50, while the cash outflow of $7 to the depositor creates a credit of only $0.70, leaving a net tax remittance of $0.80. This is equal to the tax of $0.80 that would have been collected had the value of services to the borrower ($3) and the value of services to the depositor ($5) been taxed directly at a rate of 10 per cent VAT.

It can be noted at this point that the illustrative examples are effectively at tax inclusive rates. In other words, prior to the VAT, the bank would have been charging 14.7 per cent interest on loans and paying 7.5 per cent interest on deposits. With tax payments of 0.3 per cent and 0.5 per cent respectively, it maintains its position by charging 15 per cent and paying 7 per cent. The pre-tax value added was equal to 7.2 per cent. Post-tax, value- added inclusive of tax is 8 per cent and the portion which is tax is 10 per cent of this. It can also be noted that the results assume that tax payments can be financed at the government rate of interest and tax credits can be invested to earn the government rate of interest. This assumption ensures that business borrowers and depositors are unaffected by the tax.

Turning to case B in Chart 10, the basic change is that the borrower is a business. The net tax remitted by the bank in this case is the same as in Example A in Chart 9, that is $0.80 in period 2. However, the loan and its repayment now have tax consequences for the business (unlike the previous case where both the depositor and the borrower are households and thus neither remit tax, nor claim credits). In the first period, the business borrower has a cash inflow of $100 from the loan proceeds and pays tax of $10. In the second period, it repays the loan plus interest and this leads to a cash outflow of $115, which gives rise to an input tax credit of $11.50 ($10 on the loan repayment and $1.50 on the interest payment).

The net government revenue implications can now be considered under the assumption that it earns $1.20 of interest on the tax of $10 remitted by the business in period 1. When it comes time to settle the account in period 2, the government has $11.20 on hand to cover the net refund of $10.70. The net refund is the difference between the bank remittance of $.80 in tax and the businesses claim of $11.50 in credits. The government's positive balance of $0.50 is equivalent to tax at 10 per cent on the $5 value of services to the depositor. This is the amount of consumption related to banking services. No net tax applies to the value of financial services to the business, as this does not represent consumption, being an input to a commercial activity.

CHART 9

Illustrative Example
A: Consumer depositor, Consumer borrower

	Bank Inflows	Bank Outflows	Tax/ Credit
Period 1			
Deposit	100		10
Loan		−100	−10
Total	100	−100	0
Period 2			
Loan Repayment	100		10
Loan Interest	15		1.50
Deposit Withdrawal		−100	−10
Deposit Interest		−7	0.70
Total	115	−107	0.80

Total Value of Banking Securities = 8

VAT = 0.80

No further tax adjustment at the consumer level

CHART 10

Illustrative Example
B: Consumer depositor, Business borrower

Tax Payments by Bank

Period 1   0

Period 2   0.80

See example A

Tax Payments by business borrower

	Business Borrower Inflows	Business Borrower Outflows	Tax/ Credit
Period 1			
Loan	100		10
Period 2			
Loan Repayment		–100	10
Loan Interest		–15	–1.50
Total			–11.50
Govt Revenues			
Period 1 Tax	10		
Interest earned @ 12%	1.20		
Period 2 Tax (0.8 – 11.5)	–10.70		
Total	0.50		

Equals 10% of the value of Banking Services to Consumer Depositor

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Cases C and D shown in Charts 11 and 12 deal with a business depositor with the loan going to a consumer and a business borrower respectively. In these cases, there should be no net tax on the business depositor (i.e. input tax credits should offset any VAT liability) or the business borrower in Case D. However, when the borrower is a household, the value of services by the bank on the loan should be taxable.

Case C set out in Chart 11 indicates that the net VAT is indeed $0.30 on the value added of $3 on the consumer loan. The value added is the difference between the interest charged by the bank of $15 and the interest of $12 that the government would pay on a loan of the same size. As shown in the Chart, the tax payment by the bank itself is identical to the earlier examples, being $0.80 in period 2. However, the business depositor now receives a tax credit in respect of the deposit of $10 in period 1. It is subsequently subject to VAT of $10 on the withdrawal of the deposit and $0.70 on the deposit interest. With the credit earning interest of 12 per cent, the business depositor would have a tax credit position of $11.20 to offset the tax of $10.70 in period 2. This $0.50 net credit along with the deposit interest of $7 would leave the business with the same $7.50 return as in the absence of the tax.

As shown in the calculation at the bottom of the chart, the government now receives net revenue of $0.30, or 10 per cent of the value of services in respect of the consumer loan.

Case D set out in Chart 12 shows a business depositor and borrower. In this case, there is an offsetting tax and input tax credit in the first period. In the second period, the business sector receives a net credit of $0.80 which places it in the exact position that it would be in without the VAT being applicable. The net credit of $0.80 is exactly equal to the tax paid by the bank which it will have passed along in its tax inclusive deposit and loan rates.

CHART 11

Illustrative Example
C: Business depositor, Consumer borrower

Tax Payments by Bank

Period 1   0

Period 2   0.80

See example A

Tax Payments by business borrower

	Business Depositor Inflows	Business Depositor Outflows	Tax/ Credit
Period 1			
Deposit		−100	−10
Period 2			
Deposit Withdrawal	100		10
Deposit interest	7		0.70
Total	107		10.70
Govt Revenues			
Period 1 Tax	−10		
Interest cost @ 12%	−1.20		
Period 2 Tax (0.8 + 10.7)	11.50		
Total	0.30		

Equals 10% of the value of Banking Services to Consumer Borrower

CHART 12

Illustrative Example
D: Business depositor, Business borrower

Tax Payments by Bank
Period 1   0
Period 2   0.80

See example A

Tax Payments by business (depositor & borrower)

	Business Inflows	Business Outflows	Tax/ Credit
Period 1			
Deposit		−100	−10
Loan	100		10
Total	100	−100	0
Period 2			
Loan Repayment		−100	−10
Loan Interest		−15	−1.50
Deposit Withdrawal	100		10
Deposit Interest	7		0.70
Total	107	−115	0.80
Govt Revenues			
Period 1 Tax	0		
Period 2 Tax	0		

Tax collected from bank fully credited to business customers.

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The final three cases deal with transactions involving non-residents. Case E, shown in Chart 13, involves a deposit by a resident consumer and a loan by the bank to a non-resident. The resident deposit leads to $10 of VAT being payable by the bank. The government earns $1.20 on this balance between period 1 and period 2. When the deposit is withdrawn in period 2, there will be a total credit to the bank of $10.70, arising from the outflow of the deposit and interest to the resident depositor. The government will have net revenues of $0.50 which is equal to the tax on the value of deposit services to the consumer. There is no tax consequences from either the non-resident loan or its repayment. As a result, the bank will be able to offer the loan at the pre-tax interest rate of 14.7 per cent and thus will be competitive with banks in other jurisdictions which are not affected by VAT.

Case F described in Chart 14 involves a deposit by a non-resident and borrowing by a resident consumer. The inflow of $100 from the non-resident is not taxable, nor is the withdrawal creditable. The tax consequences arise only in respect of the resident consumer borrower. There is a credit to the bank of $10 on the loan and on which it can earn interest of $1.20 until period 2. In period 2, the loan repayment results in the payment of $10 in tax on the loan repayment and $1.50 on the interest payment. The net result is government revenue of $0.30. This is the tax on the value added of $3 incorporated in the consumer loan. It is important to note that the bank is able to pay its pre-tax deposit rate of 7.5 per cent to the foreign depositor. The bank charges $15 in interest to the consumer and pays $0.30 to the government in VAT. Its net revenues are thus $14.70, just as they would be without the tax. Payment of $7.50 to the non-resident leaves it with its pre-tax margin of $7.20 intact.

The final case G is not shown in a chart. It involves a non-resident depositor and a non-resident borrower. There are no tax implications of either the deposit or the loan. Again, the bank can charge its pre-tax interest rate of 14.7 per cent and pay its pre-tax deposit rate of 7.5 per cent, yielding it a pre-tax net margin of 7.2 per cent.

CHART 13

Illustrative Example
E: Resident Consumer depositor,
Non-resident borrower

Tax Payments by Bank

	Bank Inflows	Bank Outflows	Tax/ Credit
Period 1			
Resident Deposit	100		10
Non-resident Loan		−100	0
Total	100	−100	10
Period 2			
Non-resident Loan Repayment	100		0
Non-resident Loan Interest	14.70		0
Resident Deposit Withdrawal		−100	−10
Resident Deposit Interest		−7	−0.70
Total	114.70	−107	−10.70
Govt Revenues			
Period 1 Tax	10		
Interest earned @ 12%	1.20		
Period 2 Tax	−10.70		
Total	0.50		

Equals 10% of the value of banking services to resident consumer depositor

CHART 14

Illustrative Example
F: Non-resident depositor,
Resident consumer borrower

Tax Payments by Bank

	Bank Inflows	Bank Outflows	Tax/ Credit
Period 1			
Non-resident Deposit	100		0
Resident Loan		−100	−10
Total	100	−100	−10
Period 2			
Resident Loan Repayment	100		10
Resident Loan Interest	15		1.50
Non-resident Deposit Withdrawal		−100	0
Non-resident Deposit Interest		−7.50	0
Total	115	−107.50	11.50
Govt Revenues			
Period 1 Tax	−10		
Interest cost @ 12%	−1.20		
Period 2 Tax	11.50		
Total	0.30		

Equals 10% of the value of banking services to resident consumer borrower

Other Design Features of Cash Flow Tax

All of the illustrations above relate to financial intermediation in the form loans and deposits. However, financial intermediation also occurs through transactions in shares and other types of financial instruments. The following sections discuss the appropriate treatment of such transactions and a few other pertinent aspects of the system.

Treatment of Share Investments

Much of the discussion of the cash-flow method in the literature has been in the context of a replacement of the corporate income tax. In that context, the treatment of share transactions is invariably tied to the mechanism of corporation and shareholder tax integration. Specifically, the appropriate treatment of share transactions at the corporate level depends upon how interest and dividends are taxed in the hands of individual shareholders and whether the return on savings is to be completely exempted from tax. While this discussion is not entirely relevant in the present context, it does offer some valuable insights that we draw upon in the following analysis.

Meade(1978) defines the tax base for the cash-flow tax (or the flow-of-funds base, in his terminology) to exclude all share (S) transactions. The tax base is defined to include net inflows from the real (R) and non-share financial (F) transactions only. Thus, cash inflows and outflows from the issuance, redemptions, purchase and sales of shares and from dividends are ignored in the computation of the tax base.[7] The main reason for this exclusion of share transactions is that the net inflows from R+F base must necessarily equal net outflows from share transactions. If the tax base were defined to be R+F+S, then it would always equal zero, given that R+F is a mirror image of the S base.

In the context of a VAT, the treatment of shares transactions has to be approached differently. For this purpose, share transactions can be divided into the following main categories:

A: Issuance of shares, and payment of dividends, to individual households (ultimate investors).

B: Those services of agents, brokers, and dealers to arrange issuance/transfers of shares and other related transactions for which the consideration takes the form of an explicit fee or commission.

C: Banks and other financial intermediaries advancing funds to business enterprises in the form of equity investments, as opposed to loans.

D: Secondary market transactions in shares (and other financial instruments) where households, non-financial business firms, and dealers, brokers, agents, banks, other financial intermediaries buy and sell shares as principals, and not as agents.

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7 Taxes paid or input tax credits claimed would also not give rise to any tax effects. The tax base, excluding share, dividend and tax transactions, is thus equivalent to what is referred to by Meade (1978) as the R+F base. In Meade's terminology, it excludes all S items.

The appropriate treatment of share transactions in categories A and B is relatively easy to define. In the case of category A, it could be argued that the issuance of shares to individual households is purely a transfer of investment funds, and does not involve any intermediation, or a consumption of real goods and services. It should thus not give rise to any VAT consequences. The cash inflow from the issuance of shares should not be included in the tax base of the corporation. By the same token, the payment of dividends to individual shareholders should not give rise to any VAT deduction or credit. Profits earned by an enterprise are a component of value added by that enterprise, dividends and simply a distribution of profits to the owners of the enterprise. A deduction of dividends would amount to an erosion of the tax base. This treatment of shares and dividends is consistent with that of a direct loan from an individual saver/lender, that does not involve any intermediation services a financial institution.

Transactions in Category B involve financial intermediation services which should attract VAT on the fees or commissions charged by the financial intermediaries. Where the services are provided to a business firm as an input to other taxable activities, the firm should be allowed a credit/deduction for the tax charged. Several countries do already follow this practice.

Transactions in categories C and D pose difficulties of both conceptual and administrative nature. To illustrate the difficulties associated with category C transactions, consider the case of a bank taking a deposit of, say, $1,000, and advancing thse funds to a business firm in the form an equity transfer (share purchase) on which the bank will earn dividends. It could be argued that this form of intermediation by the bank was conceptually identical to the situation where the funds are advanced in the form of a loan. The bank should thus be given a tax credit for the cash outflow at the time of share purchase, and any cash inflow from dividends or an eventual disposition of the shares should attract an output tax. A question then arises as to whether the transaction should also be handled like a debt in calculating the VAT liability of the business firm. If it is, then one would need to make certain that dividends payments on the shares held by the bank were comparable to the interest that would have been payable on a loan transaction, i.e. equal to the total of the pure rate of interest, an appropriate risk premium, and a consideration for financial intermediation services. Otherwise, there is a risk that excess dividend payments could lead to an erosion of the tax base.

An alternative would be to treat share investments by financial intermediaries the same as those by indiviuals and households, i.e. ignore them in the computation of the tax base. In our previous example, the bank's tax base in the first period would include the $1,000, with no deduction for the share investment. The bank would be a given a deduction for any deposit withdrawals or interest payments. It might appear that the deduction of interest, but no inclusion of dividends, would lead to a mismeasurement of the tax base. This is not the case. The government collects tax on the deposit in the first period. This tax plus the interest the government would earn on it should exceed the net tax refund the government would provide to the bank in a later period. The denial of the deduction for the share investment in the first period compensates the government for the exclusion of dividends from the base.

In an ideal world characterized by perfect competition, and full information, the two alternatives may yield the same result. From a conceptual perspective, if share investments by financial intermediaries are similar to direct investments by households that do not involve any

financial intermediation services, it may be appropriate to treat them both the same, i.e. ignore them in the computation of the tax base. Where such investments are close substitutes of debt securities, then it may be simpler to include them in the base

The choice between the two alternatives may also depend upon the appropriate treatment of the secondary market transactions in category D, which give rise to many of the same issues. The main difference between categories C and D is that in the case of category C there is a direct link between the issuer and the holder of the security, creating a presumption that the holder is providing services to the issuer. Where securities are acquired in the secondary market, there is no such direct link, and the holder may not be providing any intermediation services to the issuer of the securities. In the present context, they give rise to the following two important policy questions:

1) Should such holdings by financial institutions be treated as pure investment activities (i.e. without any intermediation services) by financial institutions and be completely ignored in the computation of their cash-flow base?

2) If not, what should be the mechanism for identifying the beneficiaries/recipients of the related services and for allowing them a tax credit or deduction where the services are acquired as an intermediate input to another taxable supply?

The answer to the first question is relatively straightforward and negative. In modern industrial economies, principal transactions in secondary markets are an important element of the intermediation activities of financial institutions. In fact, much of the innovation in financial markets over the past decade or two has been in the form of creation of hybrid/derivative products from the original issues of debt and share securities which are marketed by financial insitutions as principals. Where the associated intermediation services are exclusively for the benefit of other VAT-registered enterprises, they could be ignored from the cash-flow tax base, without any adverse tax consequences. However, where the services are for the benefit of households and exempt business enterprises, it would not be appropriate to exclude them from the tax base.

If such activities are to be included in the tax base, then one needs to address the second question above. Unfortunately, we are unable to shed any light on it at this stage. It will require a detailed consideration of different types of security transactions (e.g., options, foreign currency exchanges, income debentures, term-preferred shares, and credit receivables), and of financial intermediaries (e.g., deposit-taking institutions, dealers, underwriters, and investment funds), which is beyond the scope of this report.

Transactions with Non-Registered Persons

Both financial institutions and other registrants would be involved with financial transactions with households and other non-registrants. Obviously, financial institutions should apply the tax and credit adjustments in respect such transactions, in order to ensure that any services provided by them to consumers are part of the tax base. The issue arises as to whether institutions other than financial institutions should also apply the tax and credit adjustments for financial transactions with non-registrants.

The options are :

A: Require all registered persons to apply the tax and credit adjustments for all the financial transactions (with registered as well as non-registered persons), except for those with non-residents.

B: (i) Require registered persons *who are financial institutions* to apply the tax and credit adjustments for all financial transactions (with registered as well as non-registered persons), except for those with non-residents; and

   (ii) Require registered persons who are not financial institutions to apply the adjustment for financial transactions with other registered persons only.

Option B essentially assumes that the intermediation value in a direct loan from the saver to the investor is nil and thus not taxable. This is arguably the case in such transactions as loans and share investments by households. Such investments do require intermediation services of agents/brokers, but their value is fully captured if the tax is applied on agents' fees and commissions.

In a practical sense, both options are likely to lead to largely similar economic impacts and the choice between them would revolve around administrative and compliance considerations.

Treatment of investment funds

The value-added of funds such as mutual funds and other investment funds may be zero where they do not have any employees and contract out all services to third parties. It would simplify compliance in such cases to waive the requirement that these types of funds be registered. Any financial transactions with them would then be treated the same as those with other non-registered persons.

Treatment of cash balances

Enterprises have cash balances in the normal course of their business activities. For retailers and other registrants dealing with the public these may be significant, but they are likely to be characterized by rapid turnover and significant fluctuations in size.

There are two potential options for dealing with cash balances. These are:

A: Treat cash balances as any other financial asset or investment, i.e. allow a tax credit for increases in cash balances, similar to an increase in a bank deposit.

B: Provide no tax credit for changes in cash balances, i.e. treat cash balances as a component of value added, similar to wages

The present discounted value of tax is similar (but not the same) under the two options. However, the time patterns of the flow of tax revenues are different. If earnings are retained as cash balances until they are distributed to owners/shareholders, there is a tax deferral on such retention's under option A, which is also the option implied by the R+F tax base in Meade (1978).

Fees and Commissions

As has been discussed, fees and commissions can readily be taxed under the general rules applicable to non-financial services. The only reason for not selecting such an approach under the exemption system is that it creates incentives to convert fee and commission charges to margins. If the value added hidden in financial margins is taxable under the provisions to tax the cash flow in financial transactions, there will be no incentive for such substitution.

Insurance services

Insurance services can be taxed in a straight forward fashion under the cash flow method. Premiums are treated as cash inflows and made taxable, while claims are treated as cash out-flows and eligible for input tax credits. This approach was discussed earlier for the case of warranties and property & casualty insurance. However, in the context of a general application of tax to all financial services, the examples of extended warraties shown in Tables 1 and 2 will be modified in one essential respect. In those examples, tax adjustments applied to only premiums and claims. When the tax is applied to other types of financial services as well, then investment of premiums by the insurer and the earning of interest on those investments also needs to be taken into account in the calculation of tax. When the insurer deposits its surplus funds with another financial institution and earns interest on them, it would be treated the same as any other business depositor. As in the case of other business depositors, it should not have any impact on the overall net tax position of the insurer. It will receive a tax credit in period 1 for its investments, and will pay tax in period 2 on the cash inflow from the withdrawal of invested funds and interest earned on them. The credit in period 1 plus interest earned on the credit will exceed the tax payable in period 2. The excess will just compensate the insurer for the tax charged by the financial institution on the deposit/investment services provided to the insurer.

Bad Debts

As discussed in Part II, the pure risk premium included in interest charges by a financial institution does not represent value added, but a mere asset transfer. It compensates the creditor for the expected transfer from the creditor to the debtor that occurs because of a default on the loan. Ideal, the risk premium component of interest should not be included in the tax base in the first place. However, because of difficulties in the determining and identifying the risk premium ex ante, it is simpler to include it in the tax base, but then give a deduction for the bad debts actually suffered by the creditor. In fact, under the cash flow system, no special adjustment is needed for bad debt. What is included in the base is the actual recovery of the loan from the debtor. When there is a bad debt, the recovery is smaller and the tax base of the creditor is automatically reduced by the bad debt. The debtor is also allowed a credit for only the amounts actually paid to the creditor.

Characteristics of the Cash-Flow Method

The cash-flow method as outlined here exhibits a number of very desirable characteristics as a method of extending VAT to financial services.

Time-value of money excluded with no explicit adjustment

In discussing the nature of value-added in fmancial services, it was noted that financial margins include a payment in respect of the time value of money, which compensates savers for

delaying consumption. This is an income payment and should not be part of the tax base for VAT. A fundamental attribute of the cash-flow method is that it excludes the time value of money without explicitly requiring it to be identified. There is thus no requirement that margin be disaggregated into its components for the value-added to be taxed. Clearly. this is very attractive from an operational perspective, because, as has been discussed in detail, it is very difficult to carry out such a disaggregation.

Full removal of tax cascading

The cash-flow method allows for the full removal of tax cascading on financial services provided to registered persons. Registrants are able to claim input tax credits in respect of their cash outflows to financial institutions, while subject to tax on their inflows. In the case of non-financial enterprises, input tax credits on outflows will normally exceed tax inflows. This excess compensates them for the tax they will be paying on their purchases of financial services. As has been described, the operation of the system is such that they are placed in an identical position to what they would be in if the tax was not in place.

Destination basis

The cash-flow system functions on a destination basis and provides for the equivalent of zero-rating on services provided to non-residents. Transactions with non-residents do not lead either to the application of tax or the claiming of credits. Domestic financial institutions are not at a disadvantage in the supply of services to non-residents. Because the cash-flow method is on a destination basis, it is compatible with this aspect of VAT on a credit-invoice system for other goods.

Fully compatible with credit-invoice method

In fact, the cash-flow method is fully compatible with the credit-invoice system for non-financial services. As well as operating on the destination basis, it provides for the claiming of input tax credits in respect of financial services and thus eliminates cascading. It obviates the necessity of input allocations between financial and non-financial activities. Because value-added on financial services is taxed on an equivalent basis to other activities, it eliminates the non-neutralities which create adverse economic effects.

Difficulties with the Cash-Flow Method

While the cash-flow method has several desirable characteristics, it is also subject to certain problems in operation. Two significant conceptual problems relate to changes in tax rates and the identification of transactions with foreigners.

Changes in tax rates

For the cash-flow method to function accurately in taxing value-added, the credit for the cash outflow should be at the same tax rate as that used for tax collection on the original cash inflow. This clearly raises the issue of what the implications of a rate change would be and what rules would be necessary to operate the system appropriately in response to a rate change. As will be seen, it is conceptually straightforward to specify a rule to achieve neutrality in the face of a tax rate adjustment, but rate changes will raise problems of a practical kind, in applying the rule.

A simple example of the introduction of a cash-flow system is presented in chart 15. The problems that rise at the time of introduction of the system are the some as thase associated with a subvequant rate change, since the introduction of the system is equivalent to a rate increase from 0 to 10 per cent. The example looks at the position of a business borrower with a loan outstanding at the point a tax is introduced. Without any special adjustments, the business receives a windfall on its cash outflow associated with the repayment of the loan. In the example this would be $11.50. Clearly, this would be inappropriate.

CHART 15

Change in Tax Rate
Illustrative Example

	Business Inflows	Business Outflows	Tax/ Credit
Period 1, tax rate 0%			
Loan from bank	100		0
Period 2, tax rate 10%			
Loan Repayment		−100	−10
Loan Interest		−15	−1.50
Total	100	−115	−11.50

The rule that would create neutrality under a rate change is the following. Where there is a tax increase, all registered persons should bc required to pay an additional tax equal to the tax rate increase multiplied by the excess of financial liabilities over financial assets just prior to the time of the rate change. The effect of this rule is to start the system, because any value-added occurring after the adjustment will be taxable in the same fashion as before, while all value-added prior to start-up is erased by the start-up adjustment.

The implications of this can be specified by reference to the example. If the tax takes effect just after the loan is made, the adjustment will be on the $100 principle of the loan, and the value-added over the course of the loan will be taxed. However, if the system starts just prior to the repayment of the loan, the adjustment would apply to the $100 principle and the $15 of accrued interest. The tax adjustment is then equal to the input tax credit and no value-added is taxed for the loan. This again is the appropriate result.

The adjustment for a tax rate change will not be needed for those financial assets that do not enter into the tax system. For example, neither the outstanding deposits or loans of non-residents, nor share capital, will be subject to the adjustment.

The application of a tax at the time a rate increase occurs is likely to be subject to political objections. Borrowers may well perceive it as a retroactive tax on their debt. The objections would be particularly pronounced at the time of introduction of the system as the adjustment would be for the full amount of the tax. **However, there are other potential ways of dealing with the adjustment issue. As we have not had the opportunity to test their feasibility in a variety of situations, they can be discussed systematically only in a later phase of the Commission's research program.**

Identification of transactions with non-residents

The identification of the place of supply and the ultimate destination of financial services in secondary market transactions is arbitrary. This is very evident in the case of income taxation, where this has been one of the problem areas in allocating the appropriate amount of income to domestic sources as distinct from foreign branches or subsidiaries. Special rules may be needed for defining the proper treatment of such transactions. These rules could influence the application of the tax to mutual funds, brokers and dealers and pension funds who buy and sell securities in the secondary market as principals.

SUBTRACTION METHOD

Another general approach to the operation of a value-added tax regime can be referred to as the subtraction method. In broad terms, the value-added tax base under this approach is determined by subtracting from revenues any expenses on taxable goods and services. Ignoring any operational difficulties for the different approaches, the value-added determined under the subtraction method would equal value-added under the cash-flow method. Given the problems with the exemption system, it is natural to inquire whether a VAT based on the subtraction method would be a viable alternative.

A variant of the subtraction method was proposed in Canada as part of a multi-stage sales tax (MSST).[8] The following discussion draws on the features of this proposal in order to illustrate some of the issues that would arise with a subtraction method VAT for financial services. This proposal was subsequently dropped when the Canadian federal government adopted its version of VAT, the Goods and Services Tax (GST). The GST uses an exemption system for financial institutions.

Summary Description

The tax base (i.e. taxable revenues) for financial institutions under a subtraction method consists of revenues from the sale of non-financial goods and services and revenues from financial services. The latter revenues can, in turn, be divided into two broad categories:

    A: Fees and Commissions

Plus B: Financial Margin

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[8]   See Finance Canada (1987), for a detailed description of the system proposed.

Fees and commissions are the explicit charges for the provision of financial services that have been discussed in earlier sections. Financial margin is defined to be financial revenues (other than fees and commissions and capital inflows) less financial expenses. Operationalizing the tax involves specifying how the margin will be calculated and which types of enterprises will be required to pay tax on it.

For the traditional borrowing and lending transactions, the margin is simply the difference between interest received and interest paid. However, financial institutions provide intermediation services not only through borrowing and lending, but also through security, currency, and other transactions. The intermediation margin should thus be defined broadly to also include net revenues from other financial transactions, e.g. net foreign exchange gains, and net capital gains on security investments.

The difference between financial revenues and financial expenses has similarities to income tax calculations, although there are important conceptual differences (e.g. capital purchases should be fully deductible under a VAT, but not under an income tax). To simplify compliance, the Canadian proposal was to have the measurement of financial revenues and expenses for VAT purposes generally parallel that for income tax purposes. For example, capital gains were to be included on a realization basis, as opposed to on an accrual basis.

Once the value of financial services is included in the VAT base, it is appropriate to allow financial institutions input tax credit for any tax paid on their purchases of non-financial goods and services. Input tax credits also need to be provided to business purchasers of financial services for the tax collected by financial institutions on the services. Under the subtraction method, these can be made available only a formula basis. Given that the margin is calculated on a group basis for all of the financial activities of an institution, it is not possible to identify the tax charged for each individual transaction. The details of these arrangements, as well as the treatment of exports are dealt with in subsequent sections.

Financial Margins - Banking and Insurance Operations

The nature of the financial margins on banking operations and insurance can be set out in more detail. Their apparent similarity to income tax concepts should be noted.

For banks, the financial margin is:

Inclusions:
    Interest receipts
    Dividends on portfolio share investments
    Capital gains on financial assets
    Trading profits from financial securities
    Foreign currency gains
    Other investment revenues

Deductions:
    Interest payments
    Capital losses on financial assets
    Trading losses from financial securities
    Foreign currency losses
    Other investment losses/expenses

In the case of insurance operations, the financial inclusions and deductions to determine the financial margin are:

Inclusions:
   Insurance and reinsurance premiums
   Investment revenues as per banks

Deductions:
   Reinsurance premium payments
   Insurance claims paid in cash
   Investment expenses as for banks
   Reserves for the savings portion of insurance premiums
   - Reserve for unearned premiums
   - Reserve for savings portion of life insurance premiums and annuities
   - Reserve for unsettled future claims

In the case of insurers, deductions are allowed for a variety of reserves. The main purpose of these reserve deductions is to exclude the savings portion of insurance premiums from the tax base. The mechanism of reserves ensures that, when claims are paid, a deduction is allowed for only that portion of claims that exceeds a refund of the savings element. This parallels the treatment of deposits and withdrawals at a banking institutions. They are neither included nor deducted in the computation of the margin. The reserves are significant mainly for the long-term life insurance contracts with constant premiums over the life of the contract. For property insurance and single period life insurance (commonly referred to as term insurance), the savings element of insurance premiums is insignificant.

Illustrative Examples

Charts 16 and 17 provide simple illustrations of the subtraction method for banking and insurance operations. The banking example uses the same values as in the illustrative example for the cash-flow method. The financial margin is equal to the difference between the interest received on the loan and the interest paid out on the deposit. In a more detailed example, this would be subject to adjustment in respect of the other items relevant to computing the financial margin, such as capital losses on the overall loan portfolio. In the example, the financial margin of $8 leads to a tax of $0.80, which is the same as the amount of tax payable by the bank in the earlier examples.

In the insurance example in Chart 17, the financial margin is shown as the difference between premiums and claims. The actual margin would also take account of the other items listed in the previous section as being determinants of financial margin, such as investment expenses and certain reserves.

CHART 16

Subtraction Method
Illustrative Example

Banking Operations

	Bank Inflows	Bank Outflows
Period 1		
Deposit	100	
Loan		−100
Period 2		
Loan Repayment	100	
Deposit Withdrawal		−100
Interest on Loan	15	
Interest on Deposit		−7
Financial Margin	15 − 7 = 8	
VAT @ 10%	= 0.80	

CHART 17

Subtraction Method
Illustrative Example

Insurance Operations

	Insurer Inflows	Insurer Outflows
Period 1		
Premiums	100	
Claims		85
Financial Margin	100 − 85 = 15	
VAT @ 10%	= 1.50	

Application to Non-Financial Firms

Financial margin is a meaningful concept for financial intermediaries who have investment revenues as well as investment expenses. Financial intermediaries will use the margin to pay salaries, fund overhead costs, and provide profits to shareholders.

For a non-financial firm borrowing funds for non-financial investments, there will not be any interest receipts, only interest expenses. The financial margin for such firms will generally be negative. On the other hand, for a depositor with no interest expense, margin would be positive and equal to the full value of the interest income. For non-financial enterprises, these positive and negative margin amounts measure neither the value of any services provided by them, nor the value of financial services acquired by them from financial institutions. As such, it is not meaningful to include them in any way in the computation of tax for non-financial enterprises.

Under the Canadian proposal, the application of tax to the financial margin was, thus, limited to financial institutions, which were defined to include:
- banks, credit unions, and trust, loan, and acceptance companies;
- investment dealers;
- life insurers, property and casualty insurers;
- investment intermediaries, such a mutual funds, with employees; and
- any other person whose principal business was lending of money, accepting deposits, or purchasing or selling debt securities.

Registered pension plans, venture capital corporations, and financial holding companies that provide financial services primarily to other affiliates were excluded from the application of the margin tax.

Investment in Non-Financial Assets

Several adjustments are necessary under the subtraction method when a financial institution carries on a non-financial business, or acquires non-financial assets. The purpose of these adjustments is, in effect, to deny a deduction to a financial institution for the cost of funds that are used in a non-financial business. Non-financial enterprises do not include investment revenue in taxable sales and are not allowed to claim a deduction for interest or dividend payments. Financial institutions, on the other hand, compute their financial margin by deducting from investment revenue the total cost of borrowed or other funds, regardless of whether or not the funds are used to generate investment revenue. The purpose of the required adjustments is then to indirectly restrict the deductions of financial institutions to the cost of funds that are used in making financial investments. The adjustment could take the form of disallowing a part of interest deducted equal to the value of non-financial assets multiplied by a specified interest rate.

Investment in Related Non-Financial Firms

Financial institutions can make investments in non-financial assets either directly, or indirectly, by giving loans or equity financing to an affiliated firm. Such investments may not yield any immediate taxable revenues to the financial institution. For example, the loan could be on

an interest-free basis, or the investment may be in the form of equity on which dividends are not paid. If there was no recognition of this in the structure of the tax, financial institutions would reduce their financial margins through deduction of the cost of funds supporting the loans, while the investment revenue was accumulating tax free in the non-financial affiliate who was not subject to the margin tax.

As a result, restrictions are needed on the deduction of interest expenses related to investments in affiliated non-financial firms. This could be implemented by making a portion of interest expenses non-deductible. This portion would be determined according to the funds invested in affiliated non-financial firms times a specified interest rate. However, this means that interest and dividend income from such investments should not be included in the margin calculation, as no corresponding interest expense deduction has been allowed in respect of it.

Equity Allowance

Where financial institutions use share capital for making loans, there is no interest expense corresponding to the interest income from the loans. The financial margin, as a result, includes not only the value of intermediation, but also the pure interest component representing the time value of the equity funds that investors have made available to the financial institution. Another adjustment is, therefore, needed, this time to remove the time-value of equity from the margin calculation. This equity allowance could take the form of the equity value times a specified interest rate.

Overall Adjustments

There is obviously a great deal of similarity in the form of the adjustments necessary in respect of equity capital, non-financial assets and investments in affiliated firms. In practice, these could be incorporated into a single adjustment.

The adjustment would take the form of a special deduction (or addition, if negative) in determining the financial margin. This special deduction would be equal to specified interest rate multiplied by the following

Shareholders equity

Less   Book value of fixed assets, net of depreciation

Less   Debt and share investments in affiliated non-financial firms

The adjustment itself could be negative or positive. If the adjustment for shareholders equity is greater than for investment in fixed assets and investments in affiliated firms, the net adjustment will reduce the financial margin. The converse situation will increase it.

Bad Debts

Since the financial margin includes a charge for the risk of default by borrowers, a tax credit should be available for bad debts. This is in recognition of the point made in the discussion of the nature of financial services that value-added should not include the risk premium which is used to offset the losses on the overall portfolio. This adjustment could be equal to the tax rate times the amount of bad debts experienced.

Formula Allocation for Exports

Any system of taxation of value-added by financial services under a VAT needs to be capable of eliminating the tax on services supplied to non-residents. Since the financial margin calculation is made at the aggregate level, there is, in general, no precise way of identifying the value of services for export. As a result, a formula allocation would have to be used to allocate non-resident services.

Under the Canadian proposal, the rules to determine foreign source revenue varied for different types of financial services. These rules attempted to tie the identification of a service as exported (giving rise to foreign source revenues) in a way that was most appropriate given the nature of operations in respect of each type of service. The taxable margin was reduced by the financial revenues (or the portion of the margin) that were determined to be attributable to export services. For this purpose, financial revenues were allocated between domestic and export activities as follows:

* fees and commissions allocated on the basis of residence of customers;

* insurance premiums allocated on the basis of location of risk;

* investment income of insurers allocated on the basis of the ratio of expected foreign insurance liabilities to the total insurance (domestic and foreign) liabilities;

* margin of banks allocated on the basis of interest and dividend receipts from non-residents to total interest and dividend receipts;

* brokerage fees allocated on the basis of residence of customers;

* underwriting income allocated on the basis of residence of company issuing the security; and

* security trading profits of brokers allocated on the basis of fees and commissions, interest and dividends, and underwriting income from non-residents.

These allocations were clearly recognized to be only an approximation. It was anticipated that the allocation rules would have to be modified over time as the government and taxpayers gained experience with their operation.

Input Tax Credit to Business Customers

As with the foreign supply of services, there is no precise method of allocating the financial margin to individual transactions to allow for the claiming of input tax credits by business customers. Special rules are thus necessary to provide for the allocation of input tax credits. While for explicit fees, and commissions (and for insurance premiums with zero-savings element) the tax credit could readily be determined assuming that the full amount of fees and commissions represented taxable consideration. For interest receipt and payments, the credit has to be approximated by using a formula.

To illustrate, the $8 financial margin in our earlier example could be allocated to depositors and borrowers pro-rata on the basis of the values of deposits and loans. In that case, the input tax credit available to the depositor and the borrower, if they were both registrants, would be $0.40 each. This allocation may not be satisfactory if the true value-added were not equally

associated with the two sides of the transaction. (For example, in the illustrations provided earlier in respect of the cash-flow method, the margin allocation was 37.5 per cent for the depositor and 62.5 per cent for the borrower.)

Alternatively, financial institutions could be given the option of selecting any other reasonable method for allocating the margin, provided the amounts allocated add up to the total margin. Of course, this would create incentives to select approaches skewing allocation of the margin to transactions with registrants and fine-tuning of the rules might be required.

The original Canadian proposal did not include any rules for the determination of input tax credits to be allowed to business firms. The approaches suggested above were discussed with industry representatives following the publication of the initial proposal. The difficulties in designing a suitable credit mechanism were one of the motivating factors in the government's decision to abandon the margin approach for applying the tax to financial services.

Tax Rate Changes under the Subtraction Method

Since the subtraction method does not entail collection and refund of tax on capital values of financial transactions (e.g. deposits and withdrawals), tax rate changes require no special adjustments. The value of financial services, as defined by financial margin can be calculated for each given period and made subject to the tax rate applicable for that period.

COMPARISON OF CASH-FLOW AND SUBTRACTION METHODS

The abowe discussion has indicates that extension of the credit-invoice system and the addition method have flaws that are unresolvable as far as use for taxation of financial services is concerned. Two other methods, the cash-flow method and the subtraction method cannot be so easily dismissed and they are compared in this section.

Both of these approaches have some attractive features as alternatives to the exemption approach. Both methods measure the value of financial services appropriately, separating value-added from other elements in financial margins which should not be part of the tax base. At the conceptual level, both methods give the same value for the aggregate tax base of financial institutions. They are also compatible with the credit-invoice system. There is thus no requirement that existing methods for dealing with non-financial goods and services be significantly altered for the adoption of either of these methods of treating fmancial services. As a result, any decision to shift from the exemption approach to one of these methods could be made largely on the basis of their operational characteristics.

The main difficulty with the cash-flow method is the tax adjustment required in respect of capital transactions that took place before the commencement of the tax or when tax rates are subsequently changed. This adjustment is well defined and easy to apply. However, it may not be politically acceptable, even though it has no adverse economic effects.

It is possible to identify mechanisms that deal with the required adjustments in a satisfactory manner and that may not be as objectionable from the perspective of taxpayers. Our preliminary review of these mechanisms that while here are a number of conceptual and operational issues that would need to be further explored, none of these appear insurmountable. A description of these mechanisms is beyond the scope of this report and is best deferred to subsequent phases of the Commission's research program.

The subtraction method requires no adjustment for tax rate changes. This is its main attraction over the cash flow method. However, it requires approximation of adjustments on a formula basis for zero-rated exports and for giving input tax credits to registered persons. These approximations would undoubtedly result in ongoing dissatisfaction with the system where the formula creates inequities and also lead to incentives for planning activity which would be detrimental to the long-term stability of the tax.

It must be concluded that the cash-flow method is the method which shows by far the greatest promise as an alternative to the exemption system. Part V discusses the issues that need to be addressed in applying the tax to financial services under the cash-flow system.

AD HOC METHODS

There are other approaches that might be adopted that respond to particular concerns about the exemption method, but which make no attempt to bring financial services fully into the VAT system. Three of these ad hoc methods that are worth noting are as follows:

A : Zero-rating of financial services, with supplementary payroll and profit taxes on financial institutions and insurance premium taxes to compensate for revenue loss;

B : Exemption of financial services, with a payroll tax on financial institutions to bring the value of labor services into the tax base; and

C : The option to treat financial services as taxable supplies.

Option A, which has been adopted in Canada by the Province of Quebec for purposes of its provincial VAT, simplifies compliance by eliminating the need for input tax credit allocations between taxable and exempt activities. However, the system is not consistent with the destination principle of VAT and continues to result in the cascading of tax to business customers. It is, therefore, deficient in two of the fundamental areas that a replacement system for exemption should incorporate.

Option B is designed mainly to compensate the government for revenue loss from the exemption approach. It otherwise leaves in place all the flaws evident in the operation of the exemption system.

The third alternative provides a mechanism for the removal of tax cascading. It is presumed that financial institutions would choose to make only those services taxable which are rendered predominantly to business enterprises who can claim an input tax credit for the tax appli-

cable on the services. As noted earlier, such an option is allowed to member countries in the Community under the sixth directive. However, its use has been limited and its application is not uniform across member states.

From a conceptual perspective, this alternative is also not satisfactory. While it helps in reducing the magnitude of tax cascading, it leaves in place all other problems that arise under the current exemption system. The main difficulty with this method is that it cannot be used for applying the tax to financial services rendered to households. If these services remain exempt, then there is continuing need for input tax credit allocations between exempt and taxable activities.

PART 5

ISSUES FOR FURTHER RESEARCH
THE CASH-FLOW METHOD

The discussion of cash-flow system has indicated that this clearly appears to be the most feasible alternative to deal with problems under the exemption system. It measures the value of financial services accurately and is compatible with the credit-invoice system for non-financial goods and services. It also appears to be superior in an operational sense to all the other alternatives. Nevertheless, there are some key issues which need to be explored further and structural features which have to be developed in greater detail before the method can be fully assessed for possible implementation. This final section identifies and briefly comments upon these issues.

Adjustment Mechanism for Rate Changes

The most troublesome issue for implementation of the cash-flow system is the need to pre-collect tax on outstanding financial instruments at the time of its introduction and adjust the amount at the time of any subsequent rate changes. As has been discussed, this has no adverse impact of a real nature in that the tax will subsequently be refunded with interest. Nevertheless, it does have a cash flow impact and is likely to be highlighted as a problem by those that may wish to retain the exemption system for one reason or another.

While such adjustments are well-defined and essential to the operation of the system, it needs to considered whether an alternative transition or other mechanism is available which would mitigate the cash flow effect. Solution of this conceptual issue would go a long way toward making the system feasible.

Other Issues

There are a number of other issues, which, while of a less fundamental nature than that relating to rate changes, need to be fully explored with a view to developing feasible rules. Some of these are technical in nature or deal with compliance and administration concerns, while others are related to tax planning opportunities that could exist with such a system. Transitional issues also need to be fully explored.

Secondary market transactions and zero-rating

As was observed, there is no obvious objective test for determining the place of supply and ultimate destination of financial intermediation services provided in respect of transactions in secondary markets, including foreign exchange transactions. Specific rules will need to be developed to determine the place of supply in such cases. This will influence the application of tax to mutual funds, brokers and dealers, and pension funds.

Hybrid/derivative securities

Cash inflows and outflows as the result of share issue and dividend payments are excluded from consideration in the calculation of the cash-flow tax base. However, there are securities which exhibit some of the characteristics of debt and some of equity, or they may be structured as equity, but be more akin to debt instruments. Similarly, payments of the return on these instruments may be considered either dividends or interest. It is necessary to have rules which define the status of these hybrid or derivative securities. Examples include bonds convertible into shares, options for share purchases and guarantees.

Direct loans from individuals to registered persons

Direct loans from individuals to registered persons may also be of a hybrid nature, having many of the characteristics of equity investment. There may be institutional or regulatory reasons for the form of the investment. Rules to prevent undue bias in the form of such direct inflows of capital need to be considered.

Imported financial services rendered by non-residents

Extension of the tax to domestic financial services would require a parallel mechanism for the imported financial services. There is no need to apply the tax to financial service imports by business firms if they are eligible to claim the tax back as a credit. The tax thus needs to be applied mainly to the services imported by households and non-profit institutions that are exempt under VAT. In the case of non-financial services, the tax is required to be self-assessed by the importer on the value of the services. One needs to consider whether the self-assessment requirement could also be extended to financial services imports under the cash-flow method.

Inflated interest payments to related parties

While interest payments will give rise to input tax credits for financial institutions, some other payments such as wages and dividends will not. This can clearly give rise to incentives for tax planning to substitute creditable payments for non-creditable ones. Rules would be needed to block such planning.

Transition issues

The switch from the exemption to the cash-flow system would lead to certain transitional issues. Existing financial assets would have to be valued for purposes of the tax adjustment needed at the start of the system. Consideration would need to be given to the fiscal effect of the tax on existing fixed-price contracts, e.g. existing fixed-interest loans. Approaches such as grandfathering certain instruments would need to be considered.

Frequency of cash flow accounting

Under cash flow approach, each cash inflow from a financial instrument attracts tax, and cash outflow gives rise to a credit. For example, each bank deposit and withdrawal would require corresponding tax calculations. For each payroll cheque issued by a corporation to its employees, there would be a corresponding VAT calculation. Consideration needs to be given to mechanisms that could reduce the frequency of such calculations, e.g. by applying the tax adjustments to only the changes in month-end bank balances.

Further Issues and Process

The issues identified for further development above are all involved with identifying a cash-flow tax structure that is fully developed conceptually and which deals with the major structural issues. However, to be capable of implementation, the tax would also have to be assessed against institutional realities and the financial services available in a number of selected countries. This would allow the system to be further refined. A particularly important aspect of this country-by-country assessment would be to ensure that tax planning opportunities are identified and appropriate responses incorporated in the structure of the tax. The final steps in this process would be to proceed with drafting the actual rules and regulations to implement the tax.

A number of other very important issues of a non-structural type would also need to be reviewed once the basic framework of the tax was fully established. These include issues such as the impact of the proposal on government revenues, interest rates, and international competitiveness of financial institutions.

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Treatment of financial services under a VAT : Further exploration of the cash-flow method of taxation

TREATMENT OF FINANCIAL SERVICES UNDER A VAT: FURTHER EXPLORATION OF THE CASH-FLOW METHOD OF TAXATION

INTRODUCTION

It was concluded in an earlier study of the tax treatment of financial services under a VAT that a cash-flow method of taxation appears to be the most promising method for applying VAT to financial services.[1] While the cash-flow method provides the conceptually correct results, meshes well with the traditional credit-invoice method for other supplies and allows straight-forward zero-rating for exports, the earlier study identified several important problems that would need to be addressed before active consideration could be given to implementation of such a system. The purpose of this follow-up report is to describe the results of further research on potential ways of dealing with the problems with the basic cash-flow method and to present an overview of two alternative/modified systems of cash-flow taxation for financial services for further discussion. The two alternatives discussed in detail are referred to as the cash-flow method with a tax calculation account (TCA) and truncated cash-flow method with TCA.

The major issues identified in respect of a cash-flow method of taxing financial services were:

- Adjustments for changes in tax rates (most significantly, the large tax rate change associated with introduction of the tax);

- Financing of tax on cash inflows;

- Treatment of secondary market transactions, including the zero-rating of transactions with non-residents; and

- Administrative and compliance issues

The report is organized in two major parts. Part I provides a more detailed discussion of the basic cash-flow method than was contained in the initial survey study, including analysis of certain issues that were not covered in that report. Part II describes and analyzes two alternative methods of implementing a cash-flow tax system for financial services: the cash-flow method with a TCA and the truncated cash-flow method with a TCA.

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[1] The earlier study prepared for the Commission of the European Communities by Ernst & Young was entitled *Treatment of Financial Services Under a VAT*, [Ernst & Young August 1993]. It discussed problems under the current exemption system and the nature of the value added by financial institutions. It also considered several options to tax financial services including the traditional credit-invoice method, the addition method, the cash-flow method, the subtraction method and selected ad hoc methods.

In considering the discussion of the three cash-flow methods, it is useful to note the essential role each of the methods plays in the full exposition. The discussion of the basic cash-flow method is designed to ensure a full consideration of conceptual and practical issues that would confront a cash-flow method of taxation for financial services. The cash-flow method with a TCA is then introduced as an alternative system that could incorporate the appropriate design features of a cash-flow tax while dealing with the two fundamental difficulties that would arise under a basic cash-flow method of taxation, namely tax rate changes and cash-flow impacts on businesses. Finally, the truncated cash-flow method with TCA is presented as an operational version of the cash-flow method with TCA, which would greatly simplify compliance for non-financial businesses.

PART 1

BASIC CASH-FLOW METHOD

MAIN DESIGN FEATURES

This section considers in detail the basic design features of the cash-flow method of taxation for financial services. The main design features relate to the tax base, exclusions from the tax base, treatment of bad debts, transactions with shareholders/owners, transactions between financial enterprises and non-financial persons, portfolio investments, definition of taxable persons, secondary market transactions, transactions with non-residents, place of supply, definition of financial institutions, and financial services rendered by non-residents. The design features are then summarized and a conceptual overview of the workings of the tax is provided.

Tax Base

Before presenting a detailed discussion of the design issues of the basic cash-flow method, it is useful to outline the operation of the cash-flow model for a straightforward, deposit/loan banking transaction. The example used is from the earlier study, but repeating it will be helpful for readers that have not had access to that study. The fact situation used in the example is utilized in describing the operation of the TCA later in the study.

The difficulties in applying the normal credit-invoice system to financial services under a VAT relate essentially to the fact that the consideration for many financial services is not necessarily explicit, but rather is often included in the spread or margin between the lending and borrowing rates of a financial intermediary. This spread consists of the value of services rendered to the depositor/lender; the value of services rendered to the borrower; and compensation for the risk of default or other capital loss on the loan. The exact distribution among these components will vary from case to case and is not directly observable. Moreover, the spread itself is often the net result of a set of capital and interest inflows and outflows on a large number of deposit accounts and a portfolio of loans. As a consequence, there is no readily apparent means of identifying the spread in respect of individual transactions, a necessary requirement if commercial entities are to be able to claim input tax credits for taxes collected on the financial services. Services of this type are referred to as *margin services* in this paper.

Several methods have been identified that allow the overall spread (value of financial services) to be calculated. These methods, including the cash-flow method, the addition method and the subtraction method, were discussed in the earlier paper. An important attribute of the cash-flow method identified in that paper is that it not only calculates the value of services for the financial institutions, but also correctly allocates the margin between the depositor and borrower sides of the transaction. The addition and subtraction methods require separate calculations using tax ratios developed for this purpose to make the allocation of credits among commercial depositors and lenders.

The tax base under a cash-flow tax can, in practice, be divided into two major components:

- Fee or commission services

- Margin services

Services for which explicit fees or commissions are charged can be treated the same as non-financial supplies under a credit-invoice system, because the value of the individual service is explicit in the fee or commission charged. The fee or commission is subjected to VAT as a consideration for a supply. The financial services that are currently taxable by countries using VAT, such as advisory, management and data processing services, safety box rentals, and debt collection, are of services for which an explicit fee or commission is charged. Input tax credits are available in respect of the inputs used to provide these services. However, their co-existence with other financial services that are exempt requires differentiation between exempt and taxable fees and commissions, and an allocation among inputs that are creditable and those that are not. These are problem areas in the current exemption system. All fee and commission services would be taxable under a credit-invoice system, were a cash-flow system to replace the exemption system.

Margin services cannot be appropriately taxed under the normal credit-invoice system and it is to these services that the cash-flow method would be applied. Under the cash-flow method, the cash flows from transactions in financial instruments are part of the tax base. Cash inflows from financial transactions (whether current or capital) are treated as taxable sales. Cash outflows from financial transactions (whether current or capital) are treated as taxed purchases, eligible for input tax credit relief. In effect, this amounts to an extension of the invoice method to all cash flows, including those from the purchase and sale of financial instruments. This parallelism is behind the compatibility of the cash-flow system for financial margin services with the traditional credit-invoice system for fee and commission financial services and for non-financial services, which was identified in the earlier study as one of the advantages of the cash-flow method for taxation of services.

The earlier study used a specific example of a deposit and lending transaction to outline the operation of the cash-flow method. It should be noted that the example was a simplified one omitting all the exceptions and situations that raise additional design considerations. It was designed to bring out the operation of the cash-flow method under the most basic circumstances. Chart 1 sets out the basic assumptions for this example. An interest rate of 7 per cent is paid to the depositor and an interest rate of 15 per cent is charged to the borrower. If the pure interest rate, which is the interest rate for a loan that incorporated no intermediation services and no risk of default, is 12 per cent, then the value of the services to the depositor is 5 per cent and that to the borrower is 3 per cent.

Using these values, it is then possible to show how the cash-flow model correctly measures the value-added in each transaction and provides for both the application of tax on the value-added services of the financial institution and also the claiming of a credit for commercial entities using financial services. As noted, cash inflows from financial transactions (whether current or capital) are treated as taxable sales. Therefore, the bank accepting the deposit would be responsible for remitting tax in respect of the deposit. On the other hand, cash outflows from financial transactions (whether current or capital) are treated as taxed purchases, and

CHART 1

Common assumptions for Illustrative Examples

Deposit interest	7%
Loan interest	15%
Pure rate on interest	12%
Value of services to depositor	5%
Value of services to borrower	3%
Total value of financial service	8%
VAT tax rate	10%

are eligible for input tax credit relief. The bank could thus claim an input tax credit on the loan made. The loan repayment (a cash inflow) would require the remitting of tax, as would the interest received. Finally, the withdrawal of the funds by the depositor along with any interest earned on the deposit would be eligible for input tax credits to the bank as cash outflows.

Under the basic cash-flow model, registered borrowers would also apply the cash-flow method to their financial transactions. In their case, the loan would represent a cash-inflow and tax would have to be remitted to the government. When the loan was repaid with interest, both the principal repayment and the interest payment would be treated as taxed purchases leading to input tax credit relief.

Chart 2 provides an example of the functioning of the cash-flow method for a simple deposit/lending transaction via a bank. For the purposes of this example, depositors are a unregistered persons not engaged in a commercial activity. Therefore, the depositors are not eligible for input tax credits in respect of any of their cash outflows. The borrower is a registrant for the tax and thus must remit tax on cash inflows and is eligible for input tax credits on cash outflows. As the earlier study [Ernst & Young 1993, 55-68] showed, similar conceptually correct results are achieved with all the various combinations of registrants, and residents and non-residents that can be identified.[2]

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[2] See [Ernst & Young 1993, 54-65].

CHART 2

Illustrative Example
Consumer depositor, Business borrower

Tax Payments by Bank

Period 1   0

Period 2   0.80

See example A

Tax Payments by business borrower

	Business Borrower Inflows	Business Borrower Outflows	Tax/ Credit
Period 1			
Loan	100		10
Period 2			
Loan Repayment		–100	–10
Loan Interest		–15	–1.50
Subtotal			–11.50
Govt Revenues			
Period 1 Tax	10		
Interest earned @ 12%	1.20		
Period 2 Tax (0.8 – 11.5)	–10.70		
Total	0.50		

Equals 10% of the value of Banking Services to Consumer Depositor

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The chart shows the full cycle of a deposit and a loan, where there is a consumer depositor and a business borrower. The bank initially receives a cash inflow of $100 and is responsible for the tax of $10. It then makes a loan from the funds and is entitled to an input tax credit of $10 in the same period. For the bank, the net initial tax effect of the transaction is nil. However, for the business borrower, the cash inflow from the loan gives rise to tax of $10 which must be remitted to the government. In the second period, when the loan is repaid, the business borrower receives a tax credit of $10 for repayment of the loan principle of $100 and a tax credit of $1.50 in respect of the loan interest of $15.

Meanwhile, the bank has a tax payable of $10 in respect of the cash inflow of $100 on the loan repayment and $1.50 in respect of the interest payment. The withdrawal of funds by the depositor gives rise to a partially offsetting input tax credit of $10 in respect of the deposit principle and $0.70 in respect of the $7 interest paid on the deposit.

If one considers the net outcome of these tax transactions from the point of view of the depositor, the bank and the business borrower, as set out in the final three rows of the table, and the government, as shown in the final two columns, the implications of the cash-flow tax are evident. The bank is subject to net tax of $0.80, which it must remit to the government. This is equal to the assumed 10 per cent VAT rate on the $8 spread between the interest paid to the depositor and the interest charged to the borrower. Meanwhile, the business borrower has paid tax of $10 in period one and received a refund of $11.50 in period 2. If the tax in period 1 was financed at the pure interest rate of 12 per cent, the business borrower would receive a net credit of $0.30 (the $1.50 net credits less a financing cost of $1.20). The $0.30 is equivalent to the tax payable by the bank on the portion of the spread that represents financial services to the business borrower. As far as the government is concerned, it collects tax of $10 in period 1, on which it can earn the pure interest rate of 12 per cent, yielding $1.20 in period 2. Taking into the account the interest it receives, and the tax assessed and input tax credits claimed, it has net revenues of $0.50, which is exactly equal to the VAT rate of 10 per cent on the value of services supplied to the consumer. This, of course, is exactly the amount which should be taxable under a VAT that applies to financial services.

For the further discussion of the cash-flow approach, it is important to note the key assumption underlying the functioning of the cash-flow model. It is assumed that borrowers can finance the tax on the cash inflow from the loan at the pure rate of interest (i.e., the interest excluding the implicit charge for bank intermediation service). At the same time, lenders can earn the pure rate of interest on tax credits earned on the cash outflow arising from the loan. This is a fundamental assumption and it was implicit in the analysis of the cash-flow method by Professor Meade, the classic exposition of the method [Meade 1978]. As will be seen subsequently, this underlying structural assumption can, in effect, be harnessed as part of a method to deal with some of the key problems that would arise in using the full cash-flow method.

With this background on the tax base and the functioning of the cash-flow method under streamlined conditions in place, the crucial design issues for a basic cash-flow tax system for financial transactions can be discussed.

Exclusions from the Tax Base

While the basic rule is that cash-flows from financial transactions (both current and capital) represent taxable and creditable events, the proper functioning of the system nevertheless

requires that there be certain exclusions of financial transactions from the tax base. These exclusions are to ensure that value-added and only value-added gives rise to non-creditable taxes being collected, and that credits are not available where no tax has been collected on the other side of the transaction.

Transactions with shareholders/owners of a business

Value-added consists of the reward/return paid to factors of production, i.e. labour and capital. A crucial design feature of VAT systems is that payments to and from such factors of production are not considered taxable/creditable events. For example, salaries and wages paid to employees are not considered to earn input tax credits for the employer and employees are not liable for VAT on their labour earnings. As a consequence, the net tax collected by the government includes (as one component of the net tax collected after crediting) an amount of tax equal to the tax rate times labour payments. In a similar fashion, the aggregate tax base net of crediting reflects the payments to interest. and profits, as these are also not considered to be taxable/creditable events.

This design characteristic must be carried over into a cash-flow system. Since the cash-flow approach makes financial transactions taxable/creditable events, there is an apparent danger that this will not be the case. However. in most respects, the cash-flow system functions automatically to retain only the value-added component of, for example, interest, in the ultimate tax base after crediting. Under the current exemption system, interest paid to a financial institutions is subject to tax cascading as follows. A business borrower charges VAT on the full selling price of goods and services which reflects the cost of interest paid to the financial institution on the loan. The financial institution does not charge VAT on the interest, but is denied the right of deduction on inputs acquired for use in its financial activities. Under the cash-flow model, the interest charge is effectively split into two parts: pure interest and a charge for intermediation services. The pure interest component continues to be treated the same as before, but the intermediation charges become taxable and creditable like any other service charges. This has the effect of removing the cascading, while still capturing the tax on the pure intermediation element.

However, there is one specific exclusion that is required. Financial transactions with the shareholders/owners of a business must be excluded as taxable/creditable transactions. Therefore, cash inflows from the issuance of shares would not be treated as a taxable sale and cash outflows in the form of dividends or share redemptions would not generate any input tax credit relief. Conceptually, if a bank were taxable/creditable on cash inflows and outflows related to its own equity, the full amount of profit related to the activity financed by the equity would be sheltered from tax, not just the pure rate of return. This could be shown by taking the example in Chart 2 and assuming the deposit was instead a purchase of bank shares by the individual depositor. Without any special rule for shareholders, the bank could reduce the tax on the profit element of its gross margin by distributing the profit as a dividend to shareholders and claiming a tax credit for the associated cash outflow.

While equity issued by financial institutions and related dividend payments would not be part of the cash flow calculations of financial institutions, financial institutions would still be subject to tax on shares (other than their own) acquired and resold in the ordinary course of their financial intermediation business. Such purchases and sales are a mechanism for providing

financial services to other persons in the economy and, as such, the associated margins represent a substitute form of fee or commission service. It should be noted that portfolio investments not made in the ordinary course of carrying on a financial intermediation business raise separate issues and are discussed later in this section under the heading "Portfolio investments, not related to any business activity".

Cash-flows between non-financial enterprises and non-registered persons, and among non-registered persons

Non-financial enterprises would be involved with financial transactions with non-registered persons, as would non-registered persons among themselves. It is proposed that these transactions be excluded from the tax base. This exclusion is necessary to avoid giving input tax credits in respect of a loan from a private individual, where the individual is not registered and does not remit tax to the government in respect of the loan.

This approach can be described more fully as requiring:

(i) registered persons *who are financial institutions* to apply the tax and credit adjustments for all financial transactions (with registered as well as non-registered persons), except for those with non-residents; and

(ii) other registered persons *who are not financial institutions* to apply the adjustment for financial transactions with other registered persons only.[3]

There are a number of ways this approach might be rationalized beyond the need to protect the tax base. For example, it might be considered that the intermediation value in a direct loan from a saver to a registered person who is not a financial institution is nil and thus there is no need to bring the transaction into the system. This is arguably the case in such transactions as loans from shareholders. Where private investors use the services of agents or other intermediaries to identify the potential borrowers and to complete the loan transaction, value-added would still be captured through the taxation of their fees and commissions. Alternatively, direct loans or investments by a saver could be considered as supplies by a small business below the registration threshold. Such supplies are neither taxable, nor give rise to any credits.

Portfolio investments, not related to any business activity

Investments that are designed to earn income and represent part of a persons' portfolio of passive investments should arguably not be part of the tax base. Portfolio investments and the subsequent income flows consist of the transfer of funds associated with changing the form in which claims on future consumption are held, a return for deferring consumption and risk premiums. None of these represent value-added or consumption.[4] Portfolio investments are akin to a bank deposit by a private saver. Any financial service received by the private saver, or portfolio investor in respect of portfolio activities will be picked up in the fees or commissions, or margins of any financial intermediaries involved in the transactions. No credit is allowed to the saver/investor for the tax applicable on such services, except where the portfolio activities are an integral part of a business activity of the investor.

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[3] This was presented as Option B in the study [Ernst & Young 1993, 75-76].

[4] See the discussion in Ernst & Young 1993, pages 5-10.

Individuals that buy and sell financial instruments as part of investment activities that are not related to any business activities will automatically have this treatment as non-registrants. However, special provisions will be necessary for registered persons and a number of complicating issues arise.

Corporations that are investing their spare funds in financial securities, and the investment transactions are not incidental to or related to their business activities, should exclude the associated cash-flows from the tax base. It might be noted that a similar distinction is drawn for income tax purposes, in that profit on financial transactions undertaken during the course of a business is taxable as business income. Profit on other financial transactions is treated as investment income or a capital gain.

There will be some potential difficulties in isolating portfolio investments from regular business transactions. The distinction between income and investment returns is often subject to a considerable number of disputes for income tax. This is particularly the case where investment income or capital gains are subject to special tax rules. However, the main purpose of including financial transactions of non-financial enterprises for the cash-flow VAT would be to allow them an input tax credit in respect of tax charged by financial institutions. They could thus be given the choice of designating financial transactions as either portfolio transactions or non-portfolio transactions related to their business. Given that the cash-flow method will generate a net tax credit entitlement only where the cash outflows exceeded cash inflows, the enterprise would designate mainly the borrowings from financial institutions to be related to their business. Most other activities which generate a net cash inflow would be designated as portfolio investments, and would be excluded from cash-flow tax calculations. It would not be advantageous for a business to designate such activities as non-portfolio activities. If the designation process were not to be subject to adverse selection bias, the designation would have to be done in advance, as otherwise portfolio investments incurring losses would be included in the tax base.

Under the standard cash-flow method with no TCA, it may be possible to include in tax computations cash flows from transactions with unregistered persons, if the business enterprises so wish. For example, the business may wish to include a business loan from a private investor in the cash flow calculations. Conceptually, such an inclusion could give rise to a net credit/deduction to the business borrower equal to the difference between the borrowing rate and the pure rate of interest. It is thus appropriate to include them in the computations only where the consumer was paying tax on the difference. However, if the business borrowers have to pay tax on the cash inflow from the loan, they would be reluctant to do so just to get the benefit of the input tax credit in respect of the difference between the actual and pure rates of interests. Moreover, it is quite possible that the business cannot finance the tax on the loan cash inflows at the pure rate of interest. In that case, the benefit of the input tax credit will be reduced, possibly to zero.

The potentially most difficult situation will be in respect of financial institutions. If the financial institution truly has portfolio investments that are unrelated to its commercial activities and primarily held to earn income on savings of its shareholders, conceptually it should be treated the same as other portfolio holders. Investment dealers are most likely to argue that this situation applies in their case, i.e., that they make speculative investments on their own account just like private savers. However, the financial institutions will also often

be involved in such transactions to provide services to customers, i.e., by buying financial securities for the purpose of resale and not as an investment. This is a difficult issue and is discussed further in the section on "secondary markets".

Bad Debts

An element included in the margin charged by financial institutions is a bad debt risk premium. This encompasses both a service element for the assumption of certain activities related to risk by the financial institution (such as risk assessment and pooling) and a pure insurance element that represents compensation to the financial institution for losses associated with bad debts that are expected to occur.

Ideally, the basic approach to bad debts would be the same as normally utilized in a VAT. When a bad debts occurs, it is treated as an involuntary reduction in the taxable consideration for a supply. The vendor is allowed to reduce its taxes otherwise payable by the tax component of the bad debt (e.g., 10/110 of the bad debt, if the VAT rate is 10%). In the case of financial institutions, this adjustment is automatic under the cash-flow method. A bad debt implies a reduction in cash inflows from the loan. The bank is allowed to claim a credit in respect of the full amount of the loan when it is granted, but is required to include in its tax base only the cash flow received from the borrower. This is equivalent to taxing the bank on the full value of its intermediation services and then allowing an explicit credit for bad debts.

When the bad debts relate to unregistered persons, the automatic adjustment in the calculation of the financial institution is all that is required. However, if the default related to a commercial loan, the situation in system terms is different. In addition to the adjustment in the tax base for the financial institution, there should also be a recovery of the input tax credit from the commercial borrower related to the value of the default. Otherwise the total input tax credits claimed by commercial customers will exceed the tax collected in respect of services provided to such customers. Such a recovery of tax will normally prove difficult in a default situation and a number of options need to be considered. However, before these are outlined, it is useful to provide an example, utilizing as a starting point the economic values in the cases described earlier.

If the loan interest on a risky loan is set at 18 per cent, a 3 risk premium has been added to the 15 per cent loan interest. The assumption is then made that the full amount of the loan becomes a bad debt. The taxable margin of the bank will be 11 per cent, the difference between the lending rate of 18 per cent and the interest rate paid to the depositor. The value of the service is divided as 5 per cent to the depositor (the pure rate of interest of 12 per cent less the deposit interest rate of 7 per cent) and 6 per cent to the registered borrower (the loan rate of 18 per cent less the pure rate of interest of 12 per cent). The borrower thus receives an input tax credit of 0.6 per cent and the government is left with net tax collected of 0.5 per cent. This captures the current portion of the transaction.

With the bad debt, the bank will effectively claim a tax refund of 10 per cent of the principal of the loan. This is the tax rate times the principal amount of the loan. If the borrower was an unregistered person, the government would have collected tax on the risk premium (3% in the above example) charged to other non-defaulting customers and, since it would not have given

rise to input tax credits, the net result would have been that only the service component of the margin would have been taxable in aggregate. However, if the defaulter is a registered person, a problem arises. Input tax credits will have been claimed by other non-defaulting borrowers in respect of the tax on the full charge for services, including the 3% risk premium. Since it will typically be the case that the government will not be able to recover tax on the defaulted value of the loan, it will be faced with a revenue loss as a result. At one extreme, an option would be to deny bad debt deductions related to commercial loans. This would give the correct government revenue result overall, but at the cost of too high taxes from non-defaulting, business borrowers. It would create competitive distortions and would no doubt be criticized as perverse in blocking bad debt deductions in respect of commercial loans, but not loans to households and other unregistered persons.

At the other extreme, the government could simply allow all bad debt adjustments and adjust the overall tax rate to make up for the loss in revenues. This is the approach typically taken in respect of supplies of non-financial goods and services under VAT systems. A bad debt in the form of non-recovery of sales consideration from the buyer entitles the vendor to a bad debt tax credit with no offsetting recapture from the buyer, even where the buyer may have claimed an input tax credit for the unpaid consideration. However, there may be concerns about the size of the adjustments involved for some financial transactions, as financial failures can be very large and the debts written off can be much more material for financial institutions than is likely to be the case with suppliers of goods. In spite of this concern, it appears that the only feasible option is to treat the bad debts of a financial institution the same as those of other vendors.

Taxable Persons

The basic cash-flow method would involve all persons involved in carrying on a commercial activity applying the cash-flow computations to their financial transactions, unless a specific exception applied.[5] Taxable persons would thus include:

- Financial institutions

- Other businesses with financial transactions linked to their non-financial commercial activities, e.g., a manufacturer borrowing or lending funds in the course of its manufacturing activities

- Other businesses acting as financial intermediaries, e.g., a retail store with credit card operations

Taxable persons would not include consumers and individual investors, nor mutual funds and other pooled investment vehicles making portfolio investments on behalf of fund members. The rationale set out for the exclusion of portfolio investments by individuals applies in toto to the investment activities of persons not engaged in any other commercial activity and they should thus not be taxable persons for purposes of the cash-flow tax. The mutual fund exemption merely extends the personal level treatment to pooled investment vehicles.

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[5] The previous section indicated that an exception might apply in the case of portfolio investments by non-financial registrants. Cash-flows associated with these investments would not be part of the tax base.

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It is expected that most enterprises. other than those acting as financial intermediaries, would realize a tax saving by being designated a taxable person. In other words, by being taxable, they would be able to receive input tax credit in respect of their financial transactions with taxable financial institutions. This would especially be the case where they had the option to exclude portfolio investments. Enterprises other than financial institutions that are engaged in financial intermediation business (e.g., credit card services provided by large vendors) would be required to be registered for purposes of the cash-flow tax. This would ensure a uniform treatment of all enterprises providing such services.

Secondary Market Transactions

Secondary market transactions, such as trading in non-treasury stocks and bonds, and the buying and selling of foreign exchange, can be important activities for both financial and non-financial businesses. The tax treatment of these transactions requires further review and discussion to arrive at the appropriate operational model.

Financial institutions

Financial institutions provide intermediation services through purchases and sales of financial instruments in the secondary market. The margin or difference between the buying and the selling price of a financial instrument is a substitute form of charging for the agency services rendered by investment dealers and other financial intermediaries, e.g., foreign exchange bought at a lower price and resold at a higher price. This would imply that financial institutions should carry out the tax computations in respect of such transactions, in order to apply the appropriate tax to the value-added.

However, financial institutions may consider that the above conclusion is invalid in certain important cases. First, if the secondary transactions were substitutes for personal investment transactions of a portfolio nature, owners/shareholders in the institutions could have a portion of the investment return subjected to tax, which would not be the case if the investment was held directly. As noted. this could be considered a significant issue in the case of investment dealers where there may be fairly direct links between parts of the portfolio and an investment dealer as an individual.

Second, financial institutions could argue that many of the financial instruments in the secondary markets are bought and sold at international prices, which do not vary from country to country. If their profit margin becomes taxable, they would be unable to pass the tax on to their customers in the form of higher selling prices of the instruments and/or lower buying prices. Financial institutions in countries which applied tax in these conditions would be subject to competitive disadvantages.

This argument is, in effect, an extension of the first argument that certain investments represent pure portfolio investment activities of the financial institution at prices over which they have no control. If the institution was providing financial services in respect of these investments, then presumably the market would allow the institutions to charge an additional price for those services. If no such service were provided, then the investments should be excluded from the computations as portfolio investments.

Non-financial businesses

For businesses other than financial institutions, inclusion of cash flows in respect of bearer instruments or secondary market transactions may be necessary only where the transactions relate to their commercial activities and they wish to claim an input tax credit for the tax collected by the financial institutions. They would neither include cash inflows, nor claim a deduction/credit for the cash outflows associated with portfolio investments in secondary market instruments. This would mean that they were neither taxable on their investments that earned income, nor able to claim credits on investments that had losses.

However, business firms often hold financial assets in connection with their non-financial taxable activities. They may have bought these assets at a high price, and sell them at a loss. This loss on a financial asset could be a substitute form of payment for financial services for use in commercial activities. For example, they may have bought foreign exchange to pay to suppliers for goods at an all inclusive price, without any explicit foreign exchange service charge by the financial institution.

The tax content of principal transactions in secondary market financial instruments is likely to be small for non-financial businesses. The costs of additional record keeping may not be worth the benefits of tax savings. If this is judged to be the case, all secondary market transactions by non-financial businesses could be excluded from the base. Tax credits could still be allowed where the consideration for financial services takes the form of explicit fees or commissions (e.g., agents services).

Transactions with Non-residents

Financial services that are exported should be zero-rated. The definition of export for financial services is considered in the next section entitled "Place of Supply". For now, the zero-rating will simply be considered to apply where there are financial transactions with non-residents. Before discussing design issues in respect of specific categories of transactions, a very important distinction needs to be made in respect of two forms of margin transactions.

Margin services

Conceptually, two distinct forms of margin services can be identified and there needs to be separate consideration and treatment of each.

- Registered transactions:

    These are essentially two-way transactions. The initial cash flow to or from a person is reversed by a cash flow in the opposite direction to or from the same person, e.g., a loan to or a deposit from a person.

    Registered transactions may include transactions where the reverse cash flow may be deemed, as opposed to actual. For example, a loan to a non-resident that is subsequently assumed by some other person could be treated as a registered transaction, because the transfer of the debt obligation from the original borrower to a new person could be treated as a deemed cash inflow from the original borrower and a deemed cash outflow to the new person assuming the debt.

- Bearer transactions

  These include all transactions other than registered transactions.

As will be shown with some specific examples when loans and deposit transactions with non-residents are considered, zero-rating of registered transactions can be achieved by excluding inflows and outflows from non-residents from the tax base.

Bearer transactions, on the other hand, cannot be zero-rated under the basic cash-flow approach. The difficulty leading to this result can be identified through a very simple example where the bank buys a financial security from a non-resident person for $95 and sells it to a resident person for $100. As this does not meet the requirements for a registered transaction, it is a bearer transaction.

If the $95 cash outflow in respect of the purchase of the instrument from a non-resident is ignored, then the inclusion of the $100 cash inflow from the sale of the instrument to a resident would result in tax applying to the full value of the instrument, and not just the $5 margin of the bank.

Similarly, if the cash outflow in respect of a purchase of a security from a resident person reduces the tax base, while the cash inflow from a resale of the security to a non-resident is not included in the tax base, the tax base would become negative by the full capital value of the security and the government would be removing from the tax base much more than the value of margin services rendered to the non-resident person.

The $5 margin in the above transaction represents intermediation services rendered to both the buyer and the seller of the instrument, and there is no objective way of allocating it between the two. This occurs because the cash-flow method breaks down in allocating the value of the margin when the initial cash flows do not reverse to the same person. In the case of registered transactions, the exclusion from the tax base of the initial cash flow representing the capital amount of the instrument is offset by the exclusion of the eventual cash flow in the reverse direction to or from the same person. As a result, the net exclusion from the base is limited to the service margin of the financial institution.

There could also be potential difficulties in establishing the identity or residence of a customer where the purchase or sale of security is made through an intermediary (e.g., an investment dealer or stock broker).

One option can be identified which would allow certain types of bearer transactions to be zero-rated. Under this option, financial institutions could be given the option of treating specific bearer transactions with non-residents the same as registered transactions. Bearer transactions eligible for this treatment would be those security transactions where both cash inflows and outflows are to and from non-residents. Where they choose to do so, they would need to identify the bearer instruments that are bought/sold from/to non-residents, and would exclude the associated cash inflows as well as outflows from the base. For example, if a bank has an international securities department which caters exclusively to non-resident customers, all of the cash flows of the department could be excluded from the tax base, regardless of whether they relate to bearer or registered transactions with non-residents.

This option is not feasible for zero-rating of services to non-residents under a mixed transaction where only one side of the transactions is with non-residents, e.g., securities bought from residents but sold to non-residents. They could be zero-rated only through an arbitrary ad hoc adjustment, e.g. excluding from the tax base only one-half of the margin in respect of mixed transactions in bearer instruments.

With this conceptual background, the treatment of various types of transactions with non-residents can be considered. These include:

(a) Financial services rendered for a fee or commission.

(b) Registered transactions with financial institutions.

(c) Registered or bearer transactions with persons other than financial institutions.

(d) Bearer transactions with financial institutions.

Financial services rendered for a fee or commission

Financial services provided for a fee or commission do not raise any special issues in respect of transactions with non-residents. They can be zero-rated under the standard rules for other goods and services.

Registered transactions with financial institutions

Direct deposits with, and loans from, financial institutions are examples of registered transactions, that is a two-way one. The intermediation component of the margin can be excluded from the tax base of financial intermediaries through not requiring any tax/credit adjustments for the cash inflows and outflows associated with deposit/loan transactions with non-residents.

There are no special problems where funds deposited by a foreign depositor are lent to domestic residents or domestic funds are lent to non-residents. Examples indicating how this occurs were presented in Ernst & Young [1993, 66-68] and are repeated here for convenience. There are three basic situations:

• Resident deposit / loan to non-resident

• Non-resident deposit / domestic loan

• Non-resident deposit / loan to non-resident

The first two examples are covered by Charts 3 and 4.

CHART 3

Illustrative Example
Resident Consumer depositor,
Non-resident borrower

Tax Payments by Bank

	Bank Inflows	Bank Outflows	Tax/ Credit
Period 1			
Resident Deposit	100		10
Non-resident Loan		−100	0
Subtotal	100	−100	10
Period 2			
Non-resident Loan Repayment	100		0
Non-resident Loan Interest	14.70		0
Resident Deposit Withdrawal		−100	−10
Resident Deposit Interest		7	−0.70
Subtotal	114.70	107	10.70
Govt Revenues			
Period 1 Tax	10		
Interest earned @ 12%	1.20		
Period 2 Tax	10.70		
Total	−0.50		

Equals 10% of the value of banking services to resident consumer depositor

CHART 4

Illustrative Example
Non-resident depositor,
Resident consumer borrower

Tax Payments by Bank

	Bank Inflows	Bank Outflows	Tax/ Credit
Period 1			
Non-resident Deposit	100		0
Resident Loan	–100	–10	
Total	100	–100	–10
Period 2			
Resident Loan Repayment	100		10
Resident Loan Interest	15		1.50
Non-resident Deposit Withdrawal	–100	0	
Non-resident Deposit Interest	–7.50	0	
Total	115	–107.50	11.50
Govt Revenues			
Period 1 Tax	–10		
Interest cost @ 12%	–1.20		
Period 2 Tax	11.50		
Total	0.30		

Equals 10% of the value of banking services to resident consumer borrower

The first case, shown in Chart 3, involves a deposit by a resident and a loan by the bank to a non-resident. The resident deposit leads to $10 of VAT being payable by the bank. The government earns $1.20 on this balance between period 1 and period 2. When the deposit is withdrawn in period 2, there will be a total credit to the bank of $10.70, arising from the outflow of the deposit and interest to the resident depositor. The government will have net revenues of $0.50 which is equal to the tax on the value-added for the consumer on its deposit with the bank. There is no tax consequences from either the non-resident loan or its repayment. As a result, the bank will be able to offer the loan at the pre-tax interest rate of 14.7 per cent and thus will be competitive with banks in other jurisdictions which are not affected by VAT.[6]

The second case described in Chart 4 involves a deposit by a non-resident and borrowing by a resident consumer. The inflow of $100 from the non-resident is not taxable, nor is the withdrawal creditable. The tax consequences arise only in respect of the resident consumer borrower. There is a credit to the bank of $10 on the loan and it must finance this at a cost of $1.20 until period 2. In period 2, the loan repayment results in the payment of $10 in tax on the loan repayment and $1.50 on the interest payment. The net result is government revenue of $0.30. This is the tax on the value added of $3 incorporated in the consumer loan. It is important to note that the bank is able to pay its pre-tax deposit rate of 7.5 per cent to the foreign depositor. The bank charges $15 in interest to the consumer and pays $0.30 to the government in VAT. Its net revenues are thus $14.70, just as they would be without the tax. Payment of $7.50 to the non-resident leaves it with its pre-tax margin (or value added) of $7.20 intact.

The final case, involving a non-resident depositor and a non-resident borrower is not shown in a chart. There are no tax implications of either the deposit or the loan. Again, the bank can apply its pre-tax interest rate of 14.7 per cent to loans and its pre-tax deposit rate of 7.5 per cent, yielding its pre-tax net margin of 7.2 per cent. It thus remains fully competitive in foreign markets.

Registered or bearer transactions with persons other than financial institutions

Any secondary market transactions by domestic residents that are not financial institutions with non-residents that are not financial institutions are treated the same as if they were portfolio transactions between direct investors. In other words, there are no calculations required for tax purposes.

This system implies a continuation of the current rules, and no special provisions for their zero-rating. However, where the transactions occur between residents and non-resident financial institutions, they may involve a rendering of professional service by non-residents. The need for special rules in this situation is discussed under a later section on taxation of imported financial services.

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[6] In the illustrative examples, the interest rates as set out in Chart 1 are on a tax-inclusive basis. In other words, prior to the VAT, the bank would have been charging 14.7 per cent interest on loans and paying 7.5 per cent interest on deposits. With tax payments of 0.3 percentage points and 0.5 percentage points respectively, it maintains its position by charging 15 per cent and paying 7 per cent. Where commercial depositors and commercial depositors are involved, the availability of the credit in respect of this VAT would place them in the pre-tax position. In the case where a VAT applied and financial services were exempt, the pre-cash-flow system would have VAT blocked from credits in the margin. In this case, commercial depositors and borrowers would also benefit from having this tax effectively eliminated from the margin as the banks became eligible to claim input tax credits on their deposit/loan activities.

Bearer transactions with financial institutions

It is useful to note first of all that for zero-rating of financial services provided to non-residents, it is the residential status of the person to whom the service is rendered that is relevant. The objective is to avoid handicapping institutions in competing in other jurisdictions by maintaining the destination basis of the tax. Therefore, it does not matter whether an investment dealer is involved with trading a domestic or foreign bond. The factor of relevance is the residence of the purchaser and seller. The dealer's service should be taxable when rendered to a resident, regardless of whether they relate to buying/selling of domestic or foreign securities. They should be zero-rated when rendered to non-residents.

There are three categories of other secondary transactions with non-residents involving purchases and sales by financial intermediaries:

- (1) Purchase from a non-resident, re-sale to a resident
- (2) Purchase from resident, resale to a non-resident
- (3) Purchase from a non-resident, resale to a non-resident

As was discussed with respect to bearer instruments, all of these categories would create problems because they are not two way transactions. Simply applying the cash-flow system could lead to significant over-application or under-application of tax, since the tax applicable to the principle components would not necessarily reverse.

The earlier discussion indicated that, where transactions of the third type occur exclusively within a division or department of a corporation, it might be possible to zero-rate all of the cash-flow of the activity in aggregate.

Place of Supply

For the zero-rating of financial services, the place of supply is determined by reference to the following two main criteria:

- Place of residence of the customer,
- Place of business where the cash flow from the transaction is going to be used.

An example of these rules can be taken from the Canadian GST legislation. Generally financial services rendered to non-residents are zero-rated. However, certain exceptions apply. Where the financial service relates to a loan to a non-resident, it is zero-rated as long as the loan does not relate to real property located in Canada or to finance a business operation in Canada. In the case of insurance contracts, the supply is zero-rated if it is made to a non-resident person, and does not relate to a risk located in Canada.

Similar rules will be needed in the context of the cash-flow tax. The important point to note is that the existing rules could continue to be used to identify zero-rated transactions. If anything, any difficulties in respect of the rules would be less important under the cash-flow tax, because the difference in the treatment of domestic and non-resident business loans would be

of less consequence. Resident businesses would pay tax, but be able to claim a credit. Non-resident businesses would neither pay tax, nor claim a credit. Under the current system of exemption, the classification of the place of supply is of significance because resident loans are subject to a hidden tax in the form of denial of input tax credit relief to the lender.

Definition of Financial Institutions

Legislation for the cash-flow tax would require a definition of a financial institution and, potentially, a definition of a financial business. The latter would become relevant if the structure of the tax was such as to require non-financial institutions carrying on margin activities to segregate the activities for tax purposes and to apply the same rules as apply to financial institutions.

A definition of a financial institution is needed, because financial institutions are required to include all cash inflows from both registered and unregistered persons in the base and are allowed to claim a credit/deduction for cash outflows to both registered and unregistered persons. Non-financial enterprises, on the other hand, exclude from the tax base all cash flows (e.g., in the form of loans) to and from unregistered persons

The definition of financial institutions could include:
- Banks, credit unions, and trust, loan, and acceptance companies;
- Credit card companies
- Investment dealers;
- Life insurers, and property and casualty insurers;
- any other person whose principal business is lending of money, accepting deposits, or purchasing or selling debt securities

Pension funds, investment funds, and financial holding companies that provide financial services primarily to their affiliates could be excluded from the definition. Their activities tend either to be in the nature of portfolio investments (as opposed to intermediation activities between depositors/savers and borrowers/users of funds) that are excluded from the tax base, or of services to other registrants, who could claim full credit in any case for the tax charged on financial services

Consideration would have to be given to including in the cash-flow base the financial transactions of any other person who carries on a financial business on a regular and continuous basis, even if such activities are not the principal business of the person. An example of this would be the credit card services to customers provided by a department store. The deciding factor in whether to include such activities in the cash-flow system would be a pragmatic one depending upon the extent of competitive distortions that are created by ignoring the financial services of non-financial institutions.

Distortions arise only where businesses excluded from the definition of financial institutions provide substantial margin services to consumers and other non-registered persons. A practical review of the extent of such situations would be necessary to determine if, and where, such a supplementary category of financial business exists. Such businesses could be required to segregate such operations and to follow the rules applicable to financial institutions. In that

event, the definition of financial institutions becomes redundant. What is then needed is a definition of financial business, regardless of whether it is carried out by a financial institution or a non-financial enterprise.

Financial Services Rendered by Non-residents

Taxation of financial services, with credit to business customers for tax charged by financial institutions, has a number of beneficial effects. It removes tax cascading and strengthens the competitive position of domestic financial institutions in international markets. It also removes any bias for domestic business customers to acquire financial services from non-resident financial institutions, because the crediting mechanism removes any tax on this business input. However, a bias is now created for consumers and portfolio investors to acquire financial services from non-residents.

By buying financial services from foreign institutions, consumers and portfolio investors can escape the tax on any charge for the financial service. For example, an investor would have an incentive to buy shares through a non-resident stock broker without payment of tax on brokerage services. A consumer may find it cheaper to take a loan in a country without VAT on financial services.

In fact, such biases already exist in the case of taxable commission and fees, or where domestic loan costs are higher than abroad due to tax payable by financial institutions on their inputs. Nevertheless, the cash-flow system could increase the size of the tax advantage associated with consumer and portfolio use of foreign financial services. As a result, the current rules that require self-assessment (or reverse charges) of tax on imported services may need to be extended to financial services. The self-assessment or reverse charge approach would be necessary as it is for other imported services and intellectual property, because it is impractical for the tax to be assessed at the point-of-entry.

DIFFICULTIES WITH THE BASIC CASH-FLOW METHOD

The basic cash-flow system as described above would lead to inclusion of financial services in the overall VAT system in a manner that was consistent with the credit-invoice system and that correctly identified the financial services tax base and allowed appropriate claiming of input tax credits by registrants. It would also eliminate the tax cascading and competitive distortions that exist under the exemption system. However, there are a number of significant difficulties with the cash-flow system in its basic form.

Two serious obstacles that have been identified in the past in respect of the cash-flow method were discussed in the earlier paper [Ernst & Young 1993, 78-81]. These relate to cash flow difficulties related to the tax on borrowings and the implications of tax rate changes, most notably at the initial implementation of the tax.

If one considers the case of a borrowing by a registrant, it is apparent that a commercial borrower would be subject to tax at the time a loan occurred, as the cash receipt associated with the loan would be taxable as a cash inflow from a financial transaction. As a result, a commercial borrower would have to find financing for the tax in addition to the original loan requirements. This would create additional borrowing requirements and present cash-flow problems.

The second major obstacle relates to the implications of a tax rate change. The introduction of a cash-flow tax system would be the most dramatic example of a rate change as the rate rose from zero to the prevailing VAT rate. Rate changes would create significant problems for the start-up of the basic cash-flow system and transitional problems during any subsequent rate adjustment.

A simple example of the introduction of a cash-flow system is presented in Chart 5. This raises the same issues as a rate change, since it is equivalent to a rate increase from 0 to 10 per cent. The example looks at the position of a business borrower with a loan outstanding of $100 at the point a tax is introduced. Without any special adjustments, the business receives a windfall on its cash outflow associated with the repayment of the loan. In the example this would be $11.50. Clearly, this would be inappropriate.[7] The result occurs, because the business borrower receives a credit in respect of the full interest component, and the full capital component, without having paid any tax at the time the borrowing occurred. Under the cash-flow method, the credit for the full amount of interest is reduced to a net amount equal to the tax on the financial service through the tax/credits on the capital flows. For this to function correctly, the tax rate on the cash inflow must be the same as the credit rate on the cash outflow upon the debt repayment. Clearly, this condition is violated any time the tax/credit rate changes.

CHART 5

Change in Tax Date Illustrative Example

	Business Inflows	Business Outflows	Tax/ Credit
Period 1, tax rate 0%			
Loan from bank	100		0
Period 2, tax rate 10%			
Loan Repayment	−100	−10	
Loan Interest	−	−15	−1.5
Total	100	−115	−11.5

Without precollection of tax on the loan plus accrued interest, the system results in a windfall gain of 11.5 in respect of the loan. Pre-collection of tax from borrowers at the commencement of the system may not be politically feasible.

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[7] If one added the government to the picture under the assumptions in Chart 1 of the illustrative example, it would still be collecting only the $0.80 at the bank level in respect of the tax on the difference between the lending and deposit rates of interest. The government would thus snffer a large windfall loss in respect of the situation shown.

As was outlined in the earlier study, the rule that would create neutrality in this situation is conceptually quite straightforward: "Where there is a tax rate increase, all registered persons should be required to pay an additional tax equal to the tax rate increase multiplied by the excess of financial liabilities over financial assets just prior to the rate change. The effect of this rule is to start the system, because any value-added occurring after the adjustment will be taxable in the same fashion as [described earlier], while all value-added prior to start-up is erased by the start-up adjustment".[Ernst & Young 1993, 81]

While this is conceptually correct, it would lead to considerable controversy in practice. Borrowers would likely perceive the tax at start-up or under later rate changes on outstanding debt amounts as a retroactive tax on debt. There would thus be considerable political objections to this aspect of implementation. Moreover, rate increases would have cash flow effects for all net debtors, as they would have to finance the additional tax assessed on account of the rate change.

It should be noted that both of these difficulties in the functioning of the cash-flow mechanism relate to financial inflows and outflows of a capital nature. Current transactions (e.g., fees and commissions) do not raise problems of the type described.

A third significant difficulty relates to secondary market transactions. In the discussion of design issues, it was pointed out that the zero-rating of transactions with non-residents was problematic in the case of secondary market transactions. The beneficiaries of the service are not always identifiable where agents are involved and it is impossible to allocate margin in transactions that do not reverse and both residents and non-residents are involved.

Secondary transactions also create other potential difficulties, because they may alter the characteristics of a situation for tax purposes from those that would apply after the initial transaction. For example, a bank may lend funds to a commercial borrower, which may claim input tax credits in respect of the loan. Assume the loan is securitized and sold to a non-registered person for whom the loan becomes a portfolio investment. As a portfolio investment, the person acquiring the loan would not be subject to tax on their financial margin on the loan. Should the commercial borrower still have access to input tax credits in that case?

A final difficulty with the basic cash-flow model related to the complexity of the cash flow calculations. All non-financial registrants with financial transactions would be required to apply the cash-flow system. Most small businesses would find the calculations confusing. There would appear to be an inordinate amount of record-keeping burden for the small, but frequent, banking deposit and withdrawal transactions. This would be in aid of what could be relatively small input tax credit eligibility in comparison to the volume of transactions recorded.

SUMMARY OF THE STRUCTURE OF THE BASIC CASH-FLOW SYSTEM

The foregoing discussion has considered the main design issues in the operation of the basic cash-flow system. It is useful at this point to provide a summary overview of the system and its implications. The following part of the paper will present two alternative approaches to

applying the cash-flow system to financial services. Their intent is to achieve the same results as the basic cash-flow in dealing with the problems of the exemption system, while eliminating or mitigating the difficulties identified in the previous section.

The summary overview is useful, both because the general structure is repeated in the alternative mechanisms and also because it will serve as a useful reference in understanding the various approaches.

Chart 6 sets out the basic approach to taxation of financial services under the cash-flow model. In the chart , financial services are divided into fee and commission services which are taxed in equivalent fashion to other supplies under the credit-invoice system. The remaining financial services are margin services and these can be divided into those involving registered instruments and those involve bearer instruments. For registered instruments, the cash-flow system essentially creates a credit-invoice system, with the same ultimate results as apply to other supplies. The cash-flow method permits zero-rating of registered transactions with non-residents, and allows appropriate input tax credits to domestic business customers.

CHART 6

Taxation of Financial Services Under Cash-Flow Method

FINANCIAL SERVICE

FEES AND COMMISSION SERVICES
- BUSINESS
  - TAXABLE WITH CREDITS BASED ON INVOICES
- CONSUMERS
  - TAXABLE

MARGIN SERVICES

BEARER INSTRUMENT
- RESIDENT CUSTOMER
  - BUSINESS
    - TAXABLE, WITH CREDITS BASED CASH FLOW
  - CONSUMERS
    - TAXABLE
- MIXED
  - TAXABLE OR FORMULA ALLOCATION FOR ZERORATING
- NON-RESIDENT CUSTOMER
  - ZERO-RATED

REGISTERED INSTRUMENT
- RESIDENT CUSTOMER
  - BUSINESS
    - TAXABLE, UNDER CASH FLOW SYSTEM
  - CONSUMERS
    - TAXABLE
- NON-RESIDENT CUSTOMER
  - ZERO-RATED

However, bearer transactions pose difficulties in zero-rating of services rendered to non-residents. Where both the cash-inflows and cash outflows associated with a bearer instrument occur to/from non-residents, they can be removed from the tax base without much difficulty. On the other hand, in the case of mixed transactions where only either the cash inflows or the cash outflows are with non-residents, (and the other part of the cash flow occurs with residents), the cash flow model does not provide any guidelines for the allocation of the financial margin between the resident and the non-resident customers. Hence, the difficulties in the zero-rating of services to non-residents.

Chart 7 provides another summary view of the treatment of various cash flows from financial instruments under the basic cash-flow system. It sets out the possible cash-flows of consumers, financial institutions, and registered businesses other than financial institutions. Shaded portions of the chart represent cash flows that directly enter the tax computations. It highlights the fact that cash-flow tax computations are required of financial and non-financial businesses only. Even though services rendered to consumers by financial institutions become taxable, consumers do not do any cash-flow computations. For financial institutions, only activities carried out in the course of business are taxable. Cash-flows from and to shareholders are not taxable, nor are non-business portfolio investments.

CHART 7

Taxation of Financial Services
Under Cash-flow Method

Cash Flows related to Financial Instruments

Consumers	Fin. Institutions	Non-fin Business
Related to personal loans, deposits, and portfolio investments	To and from shareholders Own-account portfolio investments **in the course of business:** - to/from registered persons - to/from unregistered persons	To and from shareholders Own-account portfolio investments **in the course of business:** - to/from registered persons - to/from unregistered persons

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Registered businesses other than financial institutions perform the cash-flow tax computations mainly to receive the benefit of tax credits in respect of taxable services rendered by financial institutions. As such, they should include in their tax computations only the cash-flows to and from financial institutions. However, as discussed in the section on main design features of the cash-flow method, the consequences of letting businesses also include cash flows from other persons in the tax computations are not serious and they could be allowed to do so if it were simpler.

Chart 8 provides a similar summary view for transactions with non-residents. The key point to note is that all situations are non-taxable through zero-rating, or as portfolio or similar activities, with the exception of the financial transactions of financial institutions related to bearer instruments.

CHART 8

Treatment of Financial Services to Non-residents under Cash-flow Method

Cash Flows related to Financial Instruments

Consumers	Non-residents	Fin. Institutions
Related to personal loans, deposits, and portfolio investments	Related to personal, portfolio or business transactions	To and from shareholders Own-account portfolio investments in the course of business: - for registered transactions **- for bearer transactions**

Table 1 provides a summary of the main design features of the cash-flow method as discussed in this part of the paper.

Table 1

Cash-flow Method, Main Design Features

Tax base:	- Revenues from fees and commissions - Net cash inflows from other financial transactions
Taxable persons:	- All persons who engage in financial transactions in the course of a business
Exclusions from the base:	- Cash flows to and from shareholders of the person - Cash flows related to non-business, portfolio investment activities of the person
Input tax credit to business customers:	- No credit allowed for non-business portfolio investment activities of the person - Credit allowed for financial transactions related to business activities of the person - Credit allowed for financial fees and commissions on the basis of tax invoices - Credit allowed for margin services through the cash-flow mechanism
Supplies to non-residents:	- Fees and commissions zero-rated under standard invoice-based system - Margin services zero-rated only for registered transactions - Margin services for bearer transactions could be zero-rated where both cash outflows and inflows are to and from non-residents - Margin services for other bearer transactions could be zero-rated through formula allocation
Supplies from non-residents:	- Removes incentives for business customers to obtain financial services from non-resident financial institutions

Table 1 (Suite)	
	Creates incentives for consumers and other non-business customers to obtain financial services from non-resident financial institutions. Need for self-assessment of tax on imports of financial services. Value of imported financial services for purposes of self-assessment of tax simple to determine for fees and commission services, but not for margin services.
Difficulties:	A: Requires pre-payment of tax on borrowings. B: Anomalous results at the time of commencement of the system or when tax rate changes. C: Complexities in zero-rating of margin services related to bearer transactions with non-residents. D: Complex administration and compliance.

PART 2

CASH-FLOW METHOD WITH TAX CALCULATION ACCOUNT

This part of the study develops two variants of the cash-flow method. These are referred to as the:

- Cash-flow method with tax calculation account (TCA)
- Truncated cash-flow method with tax calculation account (TCA)

These two methods are designed to deal with most of the main difficulties associated with the use of the basic cash-flow method. Both of these approaches are cash-flow tax systems for financial services and most of the discussion on design issues apply equally to them. The essential difference is the use of the TCA as a fundamental element in the operation of the system.

CASH-FLOW METHOD WITH TCA

Two of the main difficulties identified in respect of the basic cash-flow system was cash-flow problems related to payment of tax at the time of borrowing and transitional adjustments at the start-up of the system or at the time of a rate increase. In all these cases, the difficulty arises only in respect of margin services involving cash inflows and outflows of a capital nature. The treatment of fees and commissions, and cash flows of a current nature related to margin activities do not lead to any problems.

The tax calculation account (TCA) is a tax suspense account created to obviate the payment of tax by taxpayers and of credits by government in the period cash inflows and outflows of a capital nature occur. Tax that would otherwise be payable/creditable is instead debited/credited to the TCA account and carried forward to the period where the capital transaction is reversed. The TCA mechanism thus allows deferral of tax on cash inflows and of tax credits for cash outflows. However, these deferrals are subject to interest charges at the government borrowing rate.

The following section describes the basic features of the TCA and subsequent sections deal with special issues that arise under the TCA concept. The final sections of this part of the study outline a truncated version of the cash-flow system with TCA. The truncated version of the cash-flow tax with TCA is designed to deal with one of the other main difficulties identified for the basic cash-flow system, namely the considerable complexity involved in non-financial registrants applying cash-flow accounting to their financial transactions in order to determine the amounts of input tax credits available. Such complexity would be equally problematic if small business registrants had to carry out the record-keeping and computations for a cash-flow system with TCA.

Basic Features of the TCA

The basic features of the cash-flow method with a TCA can be briefly summarized as follows:

- Tax payments on cash inflows related to a financial instrument (whether an asset or a liability) debited to the TCA.

- Input tax credits on cash outflows related to a financial instrument credited to the TCA.

- Net balance in the TCA subject to an indexing adjustment at the government borrowing rate. (As will be discussed later, a short-term government borrowing rate is a proxy for the pure rate of interest)

- A balance in the TCA is payable (or refundable, if negative amount) periodically, after subtracting a notional amount equal to the tax rate times the value of the financial instrument at the end of the period.

Charts 9 and 10 illustrate the operation of the TCA for a $100 loan and deposit transaction respectively, assuming that the interest and tax rate values are as used in earlier illustrations. Under the full cash-flow method, both the bank and the business registrant would have TCA accounts. It is assumed, in this example, that the deposit and loan occur at the end of period 1 and there are no current interest amounts in that period. The deposit and loan are both assumed to be repaid at the end of the second period.

In chart 9, the bank has made the $100 loan, leading to a cash outflow and thus a credit balance of $10 in the TCA. There will be a negative $1.20 indexing adjustment added at the end of the period. The repayment of the loan will lead to a cash inflow of $100 and a debit of $10 in the TCA. Receipt of loan interest of $15 will result in a debit entry of $1.50. The balance of these entries is a positive amount of $0.30, which must be paid to the government as tax.

In chart 10, the operation of the TCA for the $100 loan is described. The cash inflow of $100 gives rise to a debit of $10 in the TCA. Indexing at 12% for the period results in a further debit entry of $1.20. The withdrawal of $100 as a cash outflow gives rise to a credit of $10, while the interest payment results in a further credit of $0.70 in the TCA. The balance after all of these entries is a debit balance of $0.50, which is payable to the government as tax.

CHART 9

Cash-flow method with TCA Illustration

● TCA for loans by a bank

	Amt.	TCA
Loan	(100)	(10)
TCA Indexing		(1.2)
Interest	15	1.5
Loan repayment	100	10
Loan closing value	—	—
Net tax due	—	0.3

CHART 10

Cash-flow method with TCA Illustration

- TCA for deposits with a bank

	Amt.	TCA
Deposit	100	10
TCA Indexing	—	1.2
Interest	(7)	(0.7)
Withdrawal	(100)	(10)
Deposit		
Closing value	—	—
Net tax due	—	0.5

It can be noted that the total tax payable by the bank is $0.80 in respect of both transactions, the same amount as calculated for a complete deposit/loan transaction in the earlier examples using the basic cash-flow approach.

The charts can also be used to indicate the implications of a situation in which the interest payments are made in the period, but the loan and deposit principal amounts are not repaid. In that case, there is no entry for the loan repayment or deposit withdrawal in the two charts, and no associated debit and credit entries in the TCA. However, because the accounts are still open since they contain an asset and a liability respectively, a calculation of the notional value of the debit/credit that would be associated with closing out of the account needs to made as described in the summary of the system above. This ensures that any tax or credits actually paid are not related to capital amounts. The notional adjustment as defined earlier is carried out by "subtracting a notional amount equal to the tax rate times the value of the financial instrument at the end of the period." This calculation is, in effect, equivalent to simply moving the loan repayment entries one line lower in chart 9 to be shown as a loan closing value, and the deposit withdrawal entries one line lower in chart 10 to be shown as the deposit closing value. The tax and credit calculated for the two accounts is then identical to that just described where the accounts are closed by a loan repayment and a deposit withdrawal.

The TCAs in the books of a business borrower or a business depositor would be the mirror images of the TDAs for a loan or a deposit in the books of the bank. For example, a business firm with a $100 loan from a bank, will have an initial debit entry of $10 (at tax rate of 10%) in the TCA, to which indexing of $1.20 will be added at the end of the year. Payment of interest of $15 on the loan in the year will result in a credit of $1.50. Finally, repayment of

the loan will result in a credit of $10 for the cash outflow associated with the repayment. The overall balance will be a a negative amount of $0.30, which would be refundable to the business as an input tax credit. This is the mirror image of the $0.30 tax calculated by the bank in its TCA for the loan to the business. This example shows that the net tax payable of the bank TCA becomes the tax creditable as per the business borrower TCA.[8]

As can be seen from the examples, the TCA system eliminates any cash-flow problems by deferring tax payments and credits on capital transfers. For example, the commercial borrower is no longer required to remit tax because of the inflow of funds from the loan in period 1. All that happens at the time of borrowing is that an amount is credited to the tax calculation account.

Despite the fact that the government does not receive the tax in respect of inflows of cash related to borrowings, it is at little risk in revenue terms. The expectation is that the amounts that would otherwise be remitted will be reversed by a tax credit for the capital outflows associated with loan repayments and interest.[9]

The TCA balances can be harnessed to deal with tax rate changes. The outstanding TCA balances would be grossed up at the time of a tax rate increase so that the tax/credit in respect of capital flows before or after the change is the same as the tax/credit adjustment in respect of the reverse flows after the change. Similarly, a tax rate reduction would be handled by grossing-down TCA balances at the time of the rate change. As a result, there would be no immediate cash-flow consequences from the rate change for either government or businesses, and tax/credits would be correctly calculated at the new rates subsequent to the rate change.

The introduction of the system would proceed in the same manner. A debit/credit balance would be created in the TCA at the start of the system equal to the tax rate times the value of a given financial liability or asset. There would be no cash flow consequences of this opening adjustment for business at the start-up, and subsequent tax/credits would then be determined under the general procedures described above.

The creation of the TCA will create a cash-flow benefit or loss depending upon whether the taxpayer has net cash outflows or inflows as a result of financial transactions in a given period. However, this benefit or loss is fully offset by the indexing of outstanding TCA balances by the government borrowing rate. As the example indicates, all participants are left in the identical position to what they would be under the full cash-flow system.

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[8] It is useful to observe at this point that it is this mirror image characteristic which is used in developing the truncated version of the system. Under that system, all the calculations would be done by the financial institutions, which could carry separate TDAs for each customer. This would not only identify the tax payable by the bank in respect of the financial services provided to the customer, but also provide the means by which the bank could provide an invoice for taxes paid, which would allow a business customer to claim for input tax credits.

[9] One situation where there would not be an offsetting entry would be as a resnlt of bankruptcy. The approach in such situations was dealt with in the section entitled, "Treatment of Bad Debts", and the same approache could be adopted under the TDA system.

The characteristics and advantages of the system relative to the basic cash-flow system can be briefly summarized:

- It eliminates cash-flow problems by deferring tax payments and credits on capital transfers

- Government is at little risk in respect of tax deferrals, because tax payment on capital inflows (e.g., borrowings) are expected to be reversed by tax credits for capital outflows (e.g., loan repayments), except in the case of bankruptcy

- The benefit/loss from deferral of tax or credit is offset by indexing of outstanding TCA balances by the government borrowing rate

- Transition difficulties are addressed through initial debiting/crediting of the TCA at the commencement of the system and adjustment of the outstanding balance at the time of any tax rate change

Accrued Interest

An issue that needs to be considered is the calculation of tax and credits where interest accrues during a period and no cash interest is paid. A few different situations are possible and the implications of these need to be considered.

If one considers only the loan on the books of the bank from the previous examples, there are two basic possibilities that could occur if an asset is one on which interest accrues, but is not paid in the year:

- Case 1: The asset is carried on the books at its original value. In this case, the tax computations will result in a credit being available of $1.20, each year, until interest is paid. In other words, the full indexing value would be paid as a credit to the bank. Payment of the credit would reset the TCA to $10 for indexing in the subsequent period. If the loan was repaid in the third period, the bank would pay tax in that period on the full interest for the two periods, including the accrued interest for the two periods. This will have the effect of recapturing the input tax credit received in the previous two periods.

- Case 2: The asset as valued on the companies books includes accrued interest. In this case, the tax is paid each year on the accrued value of services rendered each year. With the values in the earlier examples, tax of $0.30 is payable in each period. The TCA than becomes equal to the asset value on the books and is compounded into the third period at the government rate of interest.

Under the assumption that any tax paid or credit earned in period 2 is compounded to the third period at the government rate of interest, it can be shown that the present value of both of these approaches are the same.[10] Therefore, on the surface, it would not appear to be necessary for a particular approach to be preferred over the other. The financial institution could use

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[10] In the third case, described subsequently, where the tax times the asset value is set equal to the TDA in the second period, all tax is payable in the third period. The tax payable in the third period is $t\{(1+r)^2-1\}L-t(1+g)^2L$, where t is the tax rate, r is the loan interest rate, g is the government interest rate, and L is the principal amount of the loan. In the equation, the first term is the tax on the compound interest on the loan which is all received in the third period. The second term is the value of the TDA after two periods of compounding. It can be shown that is equivalent to the other two cases, as long as the input tax credit received in case 1 and the tax paid in case 2 earn interest at the government rate in the third period.

whichever approach it applied in its books. However, if the institution can earn a higher rate of return than the government rate, it would prefer case 1, where it can earn a return on the tax credit for third period. It might be noted that case 1 is equivalent to the basic cash-flow result, where credits are paid in respect of capital flows. However, in this case, it is the government that would be required to finance the payments of credits. Case 1 also presents a risk to government in that it could pay input tax credits that are not subsequently recovered due to bankruptcies. Finally, it might be perceived as a rather artificial situation in that it amounts to the taxpayer borrowing the tax value of the indexing adjustment from government.

Given these considerations, it might be considered necessary to specify that a refund of the credit is not available where the TCA for a financial intermediary shows a negative balance either because no interest is accrued or because the interest rate on the loan is less than the indexing rate. This would result in a third case as follows:

- Case 3: No refund of credits is available where the interest rate (and/or rate of accrual) on the loan is less than the indexing rate. In this case, the TCA balance will be carried forward at its indexed value. When interest is paid in the third period, the full interest rate would still be included in the tax base. However, the indexed balance will have the effect of requiring the payment on only the excess of interest over the cumulative indexing adjustment over the three periods, i.e., on the cumulative value of services over the period.

Tax calculation account:
Illustrative Example of System Implementation

Chart 11 provides an example of the functioning of the TCA during implementation of the system. It is assumed that the system is introduced at the mid-point of a year. If the system is to function correctly, only one-half the value-added at the bank should be taxed for either a loan or deposit transaction. Only the case of a loan is shown, but it is easily surmised that similar results would occur for a deposit transaction.

At the bank, there were no tax implications when the original loan was made. At the point the system is introduced, the current value of the loan will be ascertained, including accrued interest. The bank will create a TCA entry equal to the tax rate times times the value of financial assets as the starting value as of the date of implementation. In order for the system to exclude fully value-added prior to implementation of the system, the assets (and liabilities) that are used to calculate the TCA at implementation must include amounts for the accrued interest on the deposit and loan.

In the example, the negative TCA in respect of the loan would be $10.72 (the tax rate of 10 per cent times the principle of $100 compounded for one-half year at 7.24 per cent, which is equivalent to an annual rate of 15 per cent). TCA indexing is then applied for the remainder of the year at the indexing rate of 12% annually. The value of such indexing compounded to the redemption point of the loan six months later is $0.63.

CHART 11

Cash-flow method with TCA
Illustration of opening adjustments at time of implementation

- **TCA for Loans by a bank**

	Amt.	TCA
Loan	(100.00)	(10.00)
Opening balance	(107.72)	(10.72)
TCA Indexing	—	(0.63)
Interest	15.00	1.50
Loan repayment	100.00	10.00
Loan closing value	—	—
Net tax due	—	0.15

When the loan is repaid, the $100 loan repayment creates the usual $10 credit entry and the interest cash flow adds a credit of $1.50. The tax payable is 15¢. This is, in fact, equal to one-half year of value-added in respect of the loan portion of the bank's financial activities.

A similar example could be presented for a rate change. A rate change would require closing an existing TCA just before the rate change and restarting it just after the rate change. In this case, the opening value of the TCA balance, (which is the closing value of the closing TCA balance at the end of the previous period), would be grossed-up to reflect the extent of the rate increase.

Tax calculation account: Issues

To ensure that the tax calculation account functions correctly, there are a number of issues that must be addressed. These include the choice of the indexing rate, treatment of indexing rate outside the deposit/loan interest range, rate changes in the indexing rate, frequency of indexing adjustments, asset valuations for system implementation or rate changes, and compliance concerns.

Choice of the indexing rate

The indexing rate in the cash-flow method with TCA plays the critical role of dividing the margin between borrowers and lenders. It thus determines the size of the input tax credit that will

be available for the registered users of financial services. It also serves the purpose of charging/crediting interest on the outstanding tax balances.

As the rate that charges/credits interest on outstanding tax balances, it should be the interest rate that the government would have earned/paid on the tax/credit amounts had there been no deferral. From the perspective of dividing the margins, the indexing rate should be a pure rate of interest that does not include any margin for financial intermediation or risk premium. Conceptually, any variation between the short-term and long-term interest rates reflects risks (bad debt risks or market risk of change in interest rates), or value of intermediation services

From both of these perspectives, a short-term treasury bill rate would be a good approximation of the cost of short-term monies for government and a pure rate of interest that does not contain any risk or intermediation elements.

Indexing rate initially outside the range of the deposit and the lending rates

In some cases, the indexing rate could initially be outside range of the deposit and lending rates. For example, the indexing rate could be 12%, but a particular institution could have a deposit rate of 14% and a lending rate of 22%, where the rates are locked-in for a period of, say five years. This pattern could occur because of the term-structure of interest rates and the institution matching deposits and loans for a given maturity period. For example, the short term interest rates could be in the 12% range, but the 5-year interest rates could be much higher because of the traditional upward sloping yield curve. A locked-in interest rate for a 5-year loan implies additional market risks for the lenders, but this risk can be eliminated for the bank by matching the maturities for the deposits and loans. The floating rates could still be 7% for deposits and 15% for loans as in other examples.

The 10% difference between the 12% indexing rate and the 22% lending rate could be viewed as consisting of two components: a 3% charge for the normal banking services, and an additional 7% charge for the market risks inherent in a 5-year locked-in investment.

By the same token, the -2% difference between the indexing and the deposit rates could be viewed as consisting of a 5% service charge by the bank to the depositor, and a reverse 7% charge by the depositor to the bank for the additional market risk the depositor was taking by making a locked-in deposit for 5 years.

Conceptually, both the service charge and the market risk premium are a consideration for financial services and should be included in the tax base. If the bank as well as the depositor and the borrower were registrants, then the use of the 12% indexing rate by all three would yield an appropriate outcome. The depositor would remit tax on 2%, the bank would remit tax on 8% (10% service charge to the borrower, offset by 2% net payment to the depositor), and the borrower would get credit in respect of 10% service and risk charge to the bank.

However, if the depositor is not a registrant, then the bank should not be allowed to claim a deduction for the net service payment of 2% to the depositor. In this example, the depositor is a net supplier of services to the bank. The service supplied is protection against the risk of movement in deposit interest rates over the five-year period. The service provided by the unregistered depositor is to be treated like any other supply by a small supplier. It is neither subject to tax, nor eligible for a credit.

These are clearly issues on which further input from financial institutions as well as other financial experts would be essential. They need to be reviewed further from both conceptual and administrative perspectives.

Changes in the indexing rate

Short-term interest rates change over time and thus the indexing rate would be subject to fluctuations. Since deposits and loans may have fixed interest rates over a period of years, changes in the indexing rate would result in modifications to the margin assigned to the borrowers or lenders. A number of conditions could occur, and some of these appear on the surface to lead to rather unusual results. The possibilities are:

- New rate still between the deposit and lending rate
- New rate lower than the deposit rate
- New rate higher than the lending rate

The first situation involves a change of the indexing rate, but the new rate is still between the deposit and lending rate. Under this case, there would simply be a change in the allocation of the margin between the depositor and the borrower.

If the rate goes down, the margin allocable to the depositor goes down and to the borrower goes up. As a result, the lender would be a able to claim a larger input tax credit. This result is equivalent to full accrual of all capital gains and losses. When the indexing interest rate goes down, with the deposit and lending interest rates remain fixed, the depositor enjoys a capital gain on the deposit that is locked-in at the old, higher interest rate, and the lender suffers a capital loss. The capital gain enjoyed by the depositor could be viewed as reducing the net payment to the bank for financial services. On the other hand, the loss to the borrower could be viewed as an increase in the payment to the bank for financial services.

Example: Initial lending rate 15%, and indexing rate 12% imply a service charge of 3% to the borrower. If market conditions change and the indexing rate falls to 10%, the lender suffers a capital loss of 2% for each year the borrowing rate is locked-in. If the borrower were to pay down the old loan immediately and refinance it at the rate of 13%, the bank would charge a penalty of 2% per annum on top of the principal amount of the loan outstanding. This additional penalty would be viewed as interest or an additional service charge and subject to tax in the hands of the bank. The borrower would receive an input tax credit in respect of this additional service charge and an ongoing credit for the regular service charge of 3%. If the loan is not paid-down, then the use of the 10% indexing rate gives exactly the same result, i.e., credit for a total service charge of 5%.

Therefore, the indexing mechanism has a very desirable property of automatically giving recognition to changes taking place in the implicit service charge due to market conditions.

Where the borrowing and the lending rates are floating, there are no capital gains and losses suffered by the depositors and lenders. As a result, the indexing system should not create any changes in the tax allocation and input tax credits. For example, assume that the initial deposit rate is 7%, lending rate 15%, and the indexing rate 12%. If market conditions change, and

the indexing rate falls to 10%, then all other things remaining the same, one would expect the deposit rate to fall to fall to 5%, and lending rate to 13%. In that case, the total tax collected by the bank, and its allocation between the depositor and the borrower would remain the same.

A second situation with a rate change would be a new rate outside the range of the original deposit and lending rates. In the context of the earlier examples, this would occur when, for example, a new indexing rate of 4%, or 20% arose. A rate change giving this result is conceptually similar to an original indexing rate outside the range, as discussed in the previous section.

The fact that the new indexing rate is outside the original range does not alter the basic conclusion above that it yields the appropriate measurement of the value of services rendered to the depositor and the borrower.

What is unique about this situation is that the windfall gains to the borrower or the depositor occurring due to a change in the indexing rate are so large that they may exceed the original service charge by the bank. The net payment to the bank could thus be a negative amount.

For example, when the indexing rate falls from 12% to 4%, the depositor with locked-in deposit rate of 7%, enjoys a windfall gain of 8%, which exceeds the original implicit service charge of 5% on the deposit. The borrower, on the other hand, suffers a windfall loss of the same magnitude. Ideally, the borrower should receive an input credit in respect of 11% service charge, and depositor should pay tax on the 3% net benefit received from the bank, and the bank should get an input tax credit for this tax remitted by the depositor on the 3% benefit. Overall, the bank would still remit tax on the same 8% net margin. However, the allocation of this margin between the depositor and the borrower would have been altered dramatically.

If the depositor were a registered business, the tax on the 3% profit would be recovered automatically through the cash -flow calculations. The business depositor would have an initial negative TCA balance of -10 for the deposit. After indexing at the new rate of 4%, the balance would increase to -10.40 at the end of the year. If the depositor receives 7% interest from the bank, and makes a full withdrawal of 107, the TCA will have a positive entry of 10.7, yielding an overall tax liability of 0.30.

However, if the depositor is a consumer, then it would be administratively cumbersome to collect this tax. In that case, some ad hoc adjustments would have to be made at the level of the bank. The adjustment could take the form of a special rule that requires the bank to use an indexing rate for deposits than is not lower than the deposit interest rate. In the opposite case of an increase in the indexing rate, the rule would require the indexing rate for loans to be no higher than the lending rate.

Under this system, the value of services to depositors and borrowers is computed in each tax period based on market conditions prevailing in that period, and taxes are remitted in a period according to the tax rate applicable in the period. Because the tax is not paid in advance for the entire period, it is neither desirable, nor feasible, to compute the tax on the basis of conditions prevailing at the time the loan/deposit is negotiated. If the contract stipulates a fixed tax-included interest rate, the net cost to a business borrower would fluctuate depending upon the tax credit computed for each period. If the contract fixes the pre-tax (net) interest rate, then the gross interest rate will vary. Banks will add a variable tax component for each period.

Frequency of indexing adjustments

For the system to yield the absolutely correct result, the indexing adjustment needs to be applied on a compound basis to whatever the outstanding balance is each day over the course of the tax period. This provides a measure of the accrual of indexing adjustment in a manner akin to the accrual of interest. This reflects the fact that the indexing adjustment is, in fact, a mechanism for charging/crediting interest on deferred tax balances.

To achieve the appropriate results, the frequency with which indexing adjustments would need to be calculated would vary greatly from asset/liability to asset/liability. For fixed term loans, calculations once a year might be sufficient, while for deposit accounts, daily compounding would be appropriate (subject to possible de minimus rules). In practice, the legislation could probably give institutions considerable flexibility in the choice of the frequency that they consider appropriate, as long as it is calculated at the same annual compound rate.

Where interest rates change frequently, a decision has to be made whether the indexing rate would be changed at the same time or only at fixed periodic intervals, e.g., only at the beginning of a calendar month. It is largely an administrative and compliance matter. From the government's point of view, the indexing adjustment may not imply significant revenue loss because it merely serves to divide banks' margin between borrowers and depositors, leaving the overall taxable margin unaffected. Of course, the division would have indirect revenue consequences if the borrowers are businesses who claim an input tax credit, and the depositors are consumers who cannot claim any credit. In the case of bearer transactions, an increase in indexing rate would reduce the tax base for financial assets, but increase it for liabilities. In reality, given that both depositors and borrowers would consist of a mixture of business and non-business customers, and given that financial institutions would have both bearer financial assets and liabilities, the risk of inappropriate tax planning behavior on the part of financial institutions from infrequent indexing rate adjustments is likely to be limited.

Valuation of assets and liabilities at commencement of system or for a change of tax rate

A valuation of financial assets and liabilities will be needed at the time of introduction of the cash-flow VAT for financial services and at the time of any rate change. The valuation at commencement is necessary to restrict the application of VAT and the availability of credits to post-commencement services. The valuation for rate changes is to ensure that accrued service values at the time of the change are subject to tax and credit at the old rate, and subsequent services at the new rate.

The valuation is required only for financial assets and liabilities only. Non-financial properties do not need require valuation.

Ideally, the adjustments in the TCA should be based on fair market value of assets and liabilities at the time of change. The values must include accrued, but unpaid interest. This would ensure that the tax or a change in its rate did not have any retroactive application.

Example: Assume a term deposit of $100 at the beginning of 1994, at an annual compound interest rate of 7% . Interest for both 1994 and 1995 are to be paid at maturity on December 31, 1995.

On January 1, 1995, a VAT on financial services is introduced with a tax rate of 10%. The indexing rate is 12%

If the deposit is valued at only $100 at the time of commencement of the system on January 1, 1995, then the TCA would have an initial balance of 10, which would be indexed to 11.2 on December 31, 1995. When the deposit and the interest for two years is withdrawn on December 31, 1995, the TCA would have a negative entry of 11.449 (i.e., $100 principal, and $14.49 compound interest), resulting in a net tax refund of $0.249. This result is clearly inappropriate because it is based on the indexing adjustment for only one year, while interest is compounded over two years.

To achieve the correct result, the deposit at January 1, 1995 should be valued at $107. In that case, the TCA balance at December 31, 1995 would be 11.984. After the negative entry of 11.449, the net tax payable would be $0.535. This is an appropriate amount, as it represents 10% of the 5% service charge on the January 1, 1995 outstanding loan balance of 107.

In the case of loans, any loans that had become bad or doubtful before the commencement of the system should be discounted and valued at their realizable value. Otherwise, the system would result in the bank obtaining a tax credit for bad or doubtful debts that had occurred before the commencement of the system, but that were not written-off in the books until after the commencement of the system.

Difficulties with the Cash-flow Method with TCA

The cash-flow method with TCA retains most of the design features of the basic cash-flow method, while providing a mechanism to deal with the financing of tax on loans and changes in tax rates, two fundamental problems with the basic cash-flow method. It thus represents a considerable advance in the search for an implementable cash-flow tax. Nevertheless, a number of difficulties do remain.

The cash-flow method with TCA would require non-financial businesses to carry out all the calculations for the TCA and record-keeping for financial transactions that would allow them to claim input tax credits for the tax payable in respect of financial services. The compliance burden on businesses associated recording debit and credit entries in the TCA for each bank deposit and withdrawal and applying the indexing adjustment would be considerable. This would be a significant negative aspect of the method, which is designed essentially to allow businesses access to the input tax credits. As will be seen in the following sections, a modification of the cash-flow tax, referred to as the truncated method, has been developed as a response to this particular concern.

The cash-flow method with TCA necessitates the choice of an indexing rate. Under the basic-cash-flow method, the indexing rate operates implicitly. When the indexing rate falls outside the range of the deposit and lending rates, special rules may be needed. These are designed to deal with the problem that correct application of the system in such circumstances would require collection of tax from non-registrants. However, the potential approach noted may create some difficulties. As was indicated in the discussion, this is an issue on which consultation and further analysis is required.

The use of a specific indexing rate under the TCA method does create some tax planning opportunities to minimize tax and to maximize input tax credit, which are not available at all, or to the same extent, under the basic cash-flow method. For example, in the case of a loan from a private individual, the cash flow model requires a pre-payment of tax by the borrower and a subsequent credit when the loan is repaid. This system results in a net credit or benefit to the borrower only if the initial tax can be financed at an interest rate lower than the borrowing rate for the loan. While this is a crucial assumption for the design of the cash-flow system, in reality it may not be possible for individual borrowers to obtain such financing for the prepayment of the tax. Thus, the need for any restrictions on the inclusion of cash flows to and from unregistered lenders is not significant under the pure cash flow method. However, under the TCA system, the tax does not have to be pre-paid to the government. It is deferred, and subject to an interest rate charge, in the form of indexing adjustment, which is, by design, lower than the interest rate on the loan. As a result, the system always results in a positive benefit from the inclusion of the loan cash-flows in tax computations. Hence, the need for special restrictions on inclusion of transactions with unregistered persons.

Summary of the Design Features of the Cash-Flow Tax with TCA

Table 2 summarizes the main design features of the cash-flow tax with TCA. It is directly comparable to Table 1, which summarized the main design features of the basic cash-flow system.

Table 2 Cash-flow Method with TCA, Main Design Features	
Tax base:	– Revenues from fees and commissions – Net cash inflows from financial transactions, but tax/credit on capital amounts deferred with indexing at pure rate of interest
Taxable persons:	All persons who engage in financial transactions in the course of a business
Exclusions from the base:	– Cash flows to and from shareholders of the person – Cash flows related to non-business, portfolio investment activities of the person – In the case of businesses other than financial institutions, cash-flows related to transactions with unregistered persons

Table 2 (Suite)

Indexing system	Balances in TCA indexed at short term government borrowing rate Indexing rate for deposits not to be lower than the deposit interest rate, and for loans not to be higher than the loan interest rate - At start of the system, initial balance created in TCA equal to tax rate times financial liabilities (excluding shareholders' equity) less financial assets - TCA balance adjusted at the time of tax rate changes
Input tax credit to business customers:	No credit allowed for non-business portfolio investment activities of the person Credit allowed for financial transactions related to business activities of the person Credit allowed for financial fees and commissions on the basis of tax invoices Credit allowed for margin services through the cash-flow mechanism, but only in respect of registered transactions
Supplies to non-residents:	Fees and commissions zero-rated under standard invoice-based system Margin services zero-rated only for registered transactions Margin services for bearer transactions could be zero-rated where both cash outflows and inflows are to and from non-residents Margin services for other bearer transactions could be zero-rated through formula allocation
Supplies from non-residents:	Removes incentives for business customers to obtain financial services from non-resident financial institutions Creates incentives for consumers and other non-business customers to obtain financial services from non-resident financial services

Table 2 (Suite)	
	Need for self-assessment of tax on imports of financial services Value of imported financial services for purposes of self-assessment of tax simple to determine for fees and commission services, but not for margin services
Difficulties:	A: Not applicable; requirement of pre-payment of tax on borrowings eliminated B: Not applicable; anomalous results at the time of commencement of the system or when tax rate changes corrected C: Complexities in zero-rating of margin services related to bearer transactions with non-residents D: Complex administration and compliance E: Additional complexity of TCA calculations F: Potential for economic distortions resulting from the choice of an inappropriate indexing rate

TRUNCATED CASH-FLOW METHOD WITH TCA

The truncated cash-flow method with TCA is a version of the cash-flow method with TCA that is designed to simplify compliance requirements for non-financial registrants. The complexity of record-keeping and of calculations of indexing adjustments for this group was noted as a difficulty with the cash-flow method with TCA. Basically, the simplification is achieved by basing tax computations entirely on the computations performed by financial institutions, which would be in a position to the necessary information as a consequence of their own compliance with the tax.

Outline of Truncated System

Under the truncated version of the tax, VAT would be applied to:

- Financial services rendered for a fee or commission

- Profit margin on financial instruments acquired by a financial institution for the purpose of resale

- Interest spread on deposits and loans by financial institutions

For financial institutions, the system would, in fact, be identical to the non-truncated system.

The system would not require any special rules for the supplies of financial services that are charged for on a fee or commission basis. Common examples of such services are charges by investment brokers, for deposit account services and for property and casualty insurance without a significant savings component. Tax could be applied to the fee or commission in the normal fashion. Registrants eligible for the input tax credit could then claim an input tax credit, if the services were acquired for use in a taxable activity. The mechanism could be the normal credit-invoice system.

The financial institutions would be subject to tax on the profit margin of financial instruments acquired for the purpose of resale. Their inclusion in the tax base reflects the discussion presented under the section entitled "Secondary Market Transactions" in the discussion of the main design features of a cash-flow tax. The tax would be calculated under the cash-flow method with TCA. No input tax credit would be available to the business customers of the financial institutions in respect of the tax collected from this source.

The interest spread on deposits and loans by financial institutions would be subject to VAT in respect of the associated services. This tax would be calculated on the cash-flow method with TCA, as discussed in the earlier section of this paper. However, the key feature of the truncated version of the tax would be that, as part of its own calculations of tax, the financial institution would also determine the tax in respect of the value of financial services provided to its commercial customers. It would then issue a tax invoice specifying the amount of such tax and the customer would be able to claim an input tax credit if the service was used in a commercial activity.

In summary, key features of the truncated version as far as input tax credits are concerned are:

- Allow an input tax credit to a registrant in respect of:
  - Fees or commissions for financial services acquired for use in taxable activities
  - The service element of interest on business deposits with and business loans from a registered financial institution
- Do not apply credit adjustment in respect of margin services in respect of bearer transactions

Truncated Cash-Flow System: Design Issues

The truncated cash-flow system with TCA is similar to the cash-flow method with TCA, with the exception that the TCA calculations are required by the financial institutions only. The simplification thus achieved is based on the fact that the TCA calculations by customers of a financial institution are a mirror image of the calculations by the financial institution.

Under the truncated system, for loans and deposits with a financial institution, the TCA calculations could be done by the financial institution, with a periodic statement issued by the institution for the net tax credit claimable by business customers. With the exception of indexing adjustment, the TCA entries would equal the tax rate multiplied by the entries in the deposit

or loan account. The resulting statement issued to the customer by the financial institution on the basis of TCA calculations becomes a tax invoice and serves the same purpose as a tax invoice for non-financial goods and services.

While other design issues and the conclusions in respect to them are to a large degree equivalent to those discussed in respect of the other cash-flow methods, there are a few cases that require special consideration.

Bearer instruments

The only difference between truncated and the standard systems would be in the treatment of bearer instruments. Under the cash-flow method with TCA, VAT registered customers could include cash flows in respect of bearer instruments bought from financial institutions in their TCA calculations, if it were to their advantage. Under the truncated method, they do not perform any TCA calculations, but claim input tax credits on the basis of tax invoices issued by financial institutions. However, in the case of bearer instruments, the financial institutions may have bought the instrument from one customer, and sold it to another and would have no way allocating the margin between the two. It may not even have adequate information about the identity of the customers. It thus is not in a position to carry out the necessary calculations.

Therefore, while financial institutions still include bearer instruments in their cash-flow tax calculations, they issue tax invoices to their customers in respect of registered instruments only. Thus, no input tax credit would be allowed to business customers for the tax on profit margins earned by a financial institution on a bearer instrument.

It should be recalled that under the basic cash-flow method, non-financial businesses can include bearer transactions of various types if it is to their advantage. The three systems all exhibit some differences in respect of bearer transactions. As a consequence, it may be useful to summarize the treatment of the service margin on bearer instruments under each of the three cash-flow systems outlined in this study.

Bearer Instruments
Of Non-Financial Businesses

Transactions With	Cash-flow Model	Cash-flow With TDA	Truncated Model
Registrants	Included	Included	Excluded
Non-Registrants	Included	Excluded	Excluded

This limitation of the truncated system is of concern only where the bearer instruments are acquired by business customers in connection with their business activities other than portfolio investments. It needs to be explored whether the volume of such transactions is significant and would be a source of serious distortion.

Minimum threshold for TCA calculations

To minimize the accounting burden of TCA calculations for each individual deposit and loan account, financial institutions could be required to issue tax invoices only where the net tax is expected to be in excess of a specified minimum threshold

Assuming a service charge of 3% per annum, and tax rate of 10%, a threshold amount of $100 would require tax invoice to be issued only in respect of loans in excess of 33,333. Financial institutions could have the choice of issuing tax invoices for smaller amounts if they so choose.

Financial institutions could then calculate a single TCA for such small accounts. This is possible because the TCA calculations are completely additive, and there is no difference in the financial institution's tax liabilities whether the calculation is done on an account-by-account basis, in aggregate, or in a set of calculations by type of asset/liability. The calculation of a single TCA for smaller acccounts could be a purely transitional measure, to allow time for the institutions to gain familiarity with the method. It might be considered politically objectionable if it were interpreted as a penalty on smaller businesses, by making the input tax credits unavailable.

Changes in the indexing rate

The issues that arise in respect to changes in the indexing rate and the indexing rate falling outside the range of the deposit and lending rates are the same as those under the standard cash-flow method with TCA. Namely, they create situations where the correct operation of the system would require calculation of tax from non-registrants, because, they, in effect, begin to supply financial services to financial institutions.

It was noted that the special rules that might be needed as an alternative to the application of tax to non-registrants under the cash-flow tax with TCA would be an undesirable element of such a situation. However, the special rules for minimum and maximum indexing rates are easier to implement under the truncated version, where the calculations are done for each individual account separately. The limitation could take the form of a simple restriction that the TCA for any loan or deposit would not result in a net tax refund.

Difficulties with the Truncated Cash-flow Method with TCA

The difficulties with the truncated method, with two exceptions, are similar to the difficulties with the cash-flow method with TCA. These revolve around the choice of the indexing rate. The truncated model eliminates tax planning opportunities in transactions with unregistered persons (by basing tax credit claims on tax invoices issued by financial institutions). It responds to the other major difficulty, the complexity of calculations with non-financial registrants. It would also be somewhat easier to administer, due to the reduction in the number of taxpayers, who would be performing the necessary computations.

The principal new difficulty relates to the lack of input tax credits in respect of bearer transactions with financial institutions. As was indicated in the discussion, this needs further analysis as to importance and potential mechanisms to deal with the issue.

Summary of the Truncated Cash-Flow Model with TCA

Table 3 provides a summary of the main design features of the truncated cash-flow method with TCA. It can be compared directly to Tables 2 and 3 to identify differences relative to the basic cash-flow method and the cash-flow method with TCA.

Table 3
Truncated Cash-flow Method with TCA, Main Design Features

Tax base:	– Revenues from fees and commissions – Net cash inflows from financial transactions, but tax/credit on capital amounts deferred with indexing at pure rate of interest
Taxable persons:	– Financial institutions – Other persons engaged in the business of accepting deposits or making loans
Exclusions from the base:	– Cash flows to and from shareholders of the person – Cash flows related to non-business, portfolio investment activities of the person – In the case of businesses other than financial institutions, cash flows related to transactions with unregistered persons
Indexing system	– Balances in TCA indexed at short term government borrowing rate – Indexing rate for deposits not to be lower than the deposit interest rate, and for loans not to be higher than the loan interest rate – At start of the system, initial balance created in TCA equal to tax rate times financial liabilities (excluding shareholders' equity) less financial assets – TCA balance adjusted at the time of tax rate changes

Table 3 (Suite)

Input tax credit to business customers:	- No credit allowed for non-business portfolio investment activities of the person - Credit allowed for financial transactions related to business activities of the person - Credit allowed for financial fees and commissions on the basis of tax invoices - Credit allowed for margin services in respect of registered transactions on the basis of TCA statements issued by financial institutions - To reduce compliance burden, credits could be restricted for amounts in excess of a specified threshold
Supplies to non-residents:	- Fees and commissions zero-rated under standard invoice-based system - Margin services zero-rated only for registered transactions - Margin services for bearer transactions could be zero-rated where both cash outflows and inflows are to and from non-residents - Margin services for other bearer transactions could be zero-rated through formula allocation
Supplies from non-residents:	- Removes incentives for business customers to obtain financial services from non-resident financial institutions - Creates incentives for consumers and other non-business customers to obtain financial services for non-resident financial services - Need for self assessment of tax on imports of financial services - Value of imported financial services for purposes of self assessment of tax simple to determine for fees and commission services, but not for margin services

Table 3 (Suite)	
Difficulties:	A: Not applicable; requirement of pre-payment of tax on borrowings eliminated
	B: Not applicable; anomalous results at the time of commencement of the system or when tax rate changes corrected
	C: Complexities in zero-rating of margin services related to bearer transactions with non-residents
	D: Complexity of administration and compliance reduced to a significant extent
	E: Additional complexity of TCA calculations limited to financial institutions
	F: Potential for economic distortions resulting from the choice of an inappropriate indexing rate

FEATURES COMMON TO ALL THREE METHODS

The discussion up to this point has focused on those financial activities which would be significantly affected by the cash-flow tax approach adopted. Other financial services, which would raise few issues in the application of VAT and/or which would be subject to the same rules whatever the approach adopted have been ignored except in passing.[11] This section considers a number of these services, namely fee and commission services, investment funds, life insurance and property and casualty insurance.

Fee and Commission Services

As has been indicated in the discussion in this paper, financial services that are paid for through fees and commissions are taxable under the normal credit-invoice system. These include such services as advisory, management and data processing services; transactions in numismatic items; safety deposit box rentals and debt collection and other such specifically identified services. Such examples of these types of services are already taxable under VAT systems, and do not raise special issues from the perspective of a cash-flow tax.

There are a few instances where the cash-flow system may yield inappropriate results that require special consideration. They relate to activities that may be conducted on either a fee or commission basis, or as a margin activity. Major examples of these include the purchase

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[11] [Ernst & Young 1993] contained a discussion of the main types of financial services and the general approach to their taxation under current VAT legislation.

for resale of financial instruments in secondary markets and the factoring of financial instruments, such as receivables. Combination of fee and commission services with margin services taxable under the cash-flow method could lead to tax avoidance opportunities with respect to such transactions.

The tax avoidance opportunity can be readily described through a simple example.

Example: A domestic factoring company buys merchant receivables for the face value of $100, but charges a fee of $5. The company subsequently sells the receivable to a non-resident for $97. The net amount taxable in the hands of the domestic factoring company is $2 (fee of $5, less loss of $3 on the sale of receivable). If the merchant is allowed to claim a credit in respect of the full fee of $5, the government suffers a net tax loss.

In the above example, the non-resident is providing financial services of $3, in the form of the margin between the buying price of receivable and the ultimate recovery of $100 from the payment in respect of the receivable. This charge is not taxable, but could be included in a creditable amount of a domestic registrant

The combination of fee and margin services may require some mechanism to make the service charge received by the non-resident financial institution subject to the domestic tax. This issue requires further consideration to identify the relevant opportunities for such avoidance activity and to specify the appropriate rules.

Treatment of Investment Funds

Investment/mutual funds could be treated the same as unregistered individual investors, provided all of the fund management services are provided by other registrants on a txable basis. In these circumstances, the fund would not have any employees. All of the profit earned by the fund is to be viewed as investment income earned on behalf of individual investors. Under these conditions, the fund would not have any value-added and could thus be excluded from the obligation to perform the computations.

On the other hand, funds with loans to other registrants may wish to elect to be treated as taxable financial intermediaries. If they were not considered registrants, the tax paid by the fund on management services would not be creditable, even though a part of these services were indirectly for the benefit of the business borrower.

Where the funds provide loans to other registrants were permitted to be taxable persons, they would remit tax on the service component of their interest charge (defined as the difference between the interest rate and the TCA indexing rate), but claim a credit for the tax paid on fund management fees. The tax on the service component of interest would, in turn, be creditable to the business borrower.

Property and Casualty Insurance

In the earlier report [Ernst & Young 1993, 42-46], it was indicated that what was effectively a variant of the cash-flow method could be applied directly to pure insurance. The method essentially involves taxing the premium payment as a financial inflow under the cash-flow

method, while allowing input tax credits for the tax on any replacement property bought as a result of the insurance. An example was provided of the treatment of an extended warranty under this method, but the approach is equally applicable to property and casualty in general.

Under the cash-flow method applied to property and casualty insurance, the full premium is subject to taxation. When the purchaser is a business, an input tax credit can be claimed for the tax paid. When there is a claim, the insurer can claim an input tax credit in respect of the VAT paid, if the insurer purchases the replacement property directly. On the other hand, if the insurer pays out funds to the policy holder to settle the claim, the insurer would be allowed to claim the same input tax credit as it would have received if it purchased the replacement directly. The business customers, however, would be required to include the cash payments in its tax base. When the cash was used to purchase replacement goods, it would then be eligible to claim an input tax credit for the tax paid on the replacement goods.

The insurance company could be investing cash-inflows from the premiums into loans and other financial instruments. It would also include such cash flows into the tax computations. It would, in effect, be providing insurance services to policy holders, and credit services to persons to whom the surplus funds are lent. It would create a TCA for the loans advanced. Where the borrower is a business customer, it would be able to claim a credit for the tax on the services rendered by the insurance company.

The system does not require any reserves, because the deductions provided for investment outflows replace the reserve deduction. However, there is a need for further consideration of the opening adjustments to create a TCA at commencement. The opening adjustments could relate to pre-paid premiums and unsettled claims.

Life Insurance with Savings Component

For life insurance (and other insurance with a savings component), the cash-flow method with TCA can be used to make the VAT system operable, even where there is a substantial savings component in policy premiums.

Consistent with the cash-flow approach, the full insurance premium is included in the tax base of the insurance company as a cash-inflow. The savings component of the premium is treated as a cash-inflow in the form of a deposit/loan from the policyholder. As in the case of property & casualty (general) insurance companies, there will be a deduction for the actual investment outflows where the saving component of the premiums is invested. This deduction for the actual investment obviates the need for reserve deductions.

Claims and cash payments on policy surrenders are then cash outflows, and thus give rise to a tax credit to the insurance company. The reduction in the savings component of the policy is treated as a deposit withdrawal, with appropriate credit adjustment to the TCA. Any claims over and above the savings portion of the policy are eligible for an input tax credit outside the TCA mechanism

At the commencement of the system, the TCA is debited by the tax rate times the accumulated investments of the insurance company, which represents the savings component of the insurance policies in force at that time. Tax rate changes could be accommodated in the usual

fashion by grossing-up or-down the balances in the TCA. These adjustments of insurance companies require further review and development.

ISSUES FOR FURTHER REVIEW

The report has discussed the basic cash-flow method for the treatment of financial transactions in detail, including the main design issues. It has also presented two additional operational methods for implementing the cash-flow method, which deal with the major difficulties that have been perceived with the approach in the past. These alternatives are based on the concept of a tax calculation account. In the review of the basic-cash flow method and the TCA-based alternatives as reported in this study, a number of specific issues have been identified that require further analysis and review.

The issues identified as requiring further review are:

- Bias for non-registrants to import financial services without paying any tax e.g., a pension fund buying shares abroad at a price that includes the dealer's commission

- Availability of a tax credit to a borrower for loans from banks that are subsequently transferred to a non-registrant?

- Risk to government from non-recovery of tax from bankrupt borrowers.

- Tax avoidance through substitution between commissions and profit margin, i.e., the combination of higher fees and a negative margin.

- Review of transactions in hybrid and derivative securities

- Review of a variety of specific transactions to test the soundness of the basic system

- Measures to simplify compliance and administration

As well as further analysis of the specific design issues identified above, there are two important steps that would aid in moving the approach towards an operational level and ensuring its feasibility.

First, the viability of the system should be tested by doing a hypothetical application of the rules to the actual operations of a selected group of financial institutions.

Second, there is a need to assemble a group of experts to prepare a draft of the legislative rules. This process is necessary to identify situations that warrant special consideration and also to assess the viability of the system.

Taxation of Insurance and Bullion Under the Cash-flow Method of VAT

TAXATION OF INSURANCE AND BULLION UNDER THE CASH-FLOW METHOD OF VAT

PART I

INTRODUCTION

This study considers the taxation of insurance and bullion under a cash flow method of VAT. Ernst & Young prepared two earlier studies looking at the taxation of financial services under a VAT.[1] The first study concluded that the cash flow approach had the greatest potential among the alternative methods (including the addition and subtraction methods) that have been discussed as a means of extending VAT to such services. The second study analyzed in detail ways of applying a cash flow VAT to banking services. In particular, it identified two operational systems referred to as the cash flow method with tax calculation account (TCA), and the truncated cash flow method with TCA. These two variations were developed to deal with various difficulties that heretofore had seemed to make adoption of a cash flow method impractical. The truncated cash flow method with TCA seems to hold considerable promise as an alternative to the present exemption for financial services. However, various major issues need to be studied in detail before this promise is confirmed. The current study looks at how the cash flow method could be applied to the various types of insurance arrangements and bullion.

Part II of this paper reviews the major issues arising in applying a cash flow VAT, including the truncated cash flow method with TCA, to financial services provided by insurers. Part III considers additional issues that need to be considered in applying such a tax to insurance activities. Part IV explains the issues that arise in the application of the tax to bullion.

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[1] Ernst & Young [1993]. "Treatment of Financial Services Under a VAT". (Toronto). Poddar, Satya, Morley English and David Leslie [1994]. "Treatment of Financial Services under a VAT: Further Exploration of the Cash-flow Method of Taxation". (Ernst & Young: Toronto).

PART 2

TAXATION OF INSURANCE SERVICES: BASIC CONCEPTS

BACKGROUND

Insurance represents an arrangement in which one party (the insurer) assumes the risk for certain types of liabilities in return for premiums or other financial payments from a person being insured (the policy holder). There are a wide variety of arrangements which involve, in effect, insurance services. Therefore, the discussion of taxation of insurance services covers not only general insurance (sometimes called property and casualty insurance) and life and health insurance, but also such arrangements as warranties, reinsurance, guarantees, certain types of hedges and any other mechanisms with the same attributes.

The key factors involved in insurance contracts as distinct from other types of goods and services relate to the time between premiums and claims, and the uncertainty attached to the claims. The time element relates to the fact that an insurance company agrees to reimburse its policy holders at some time in the future in return for the receipt of a premium currently. For property and casualty insurers, this time tends to be relatively short (one year or less), while for life insurance it may stretch over decades. The uncertainty feature relates to the fact that the size and timing of claims is not known, and must be estimated based on past experience and other information by the insurance company in designing and pricing (setting premium levels) policies. In some types of insurance, individual policy holders may not know if they will receive claims reimbursement. This is the case in general insurance contracts and term life insurance. In other types of insurance, the policy holder may eventually be certain of a cash receipt, but may also be entitled to an earlier payment under certain conditions. Life insurance policies with a specified payout upon some termination date are of this type. Payment will occur earlier upon the death of a policy holder.

From the insurer's perspective, the time and uncertainty aspects of insurance lead to two key operating characteristics. First, the insurer can invest premiums received and earn a return on the investment. Second, the insurer will have to write a large number of policies in order to diversify the risk. In life insurance, much of the risk can be removed by pooling it with other risks. Since the prospective size of the claim under each policy is often known and actuaries have been able to estimate the pattern of payouts fairly accurately, pooling the risks across a large number of policy holders can largely eliminate the risks to the insurer. For general insurance, it may not be possible to eliminate as much of the risk. The size of claims is less certain and there may be a considerable degree of covariance of claims for an individual company (for example, natural disasters may affect most properties over a wide area). In order to deal with this, insurers will attempt not only to diversify risk, but will use such techniques as reinsurance (insurance on the insurance written) and careful determination of the equity capital required to support a given pattern of policies as part of its business planning.

For many purposes, insurance is often divided into the two categories of life and health insurance and property and casualty (or general) insurance. Life insurance provides financial protection against the risk of mortality over a period of time. The life insurer provides this service by pooling the risks on a large number of lives either directly or through reinsurance

arrangements with other companies. Property and casualty insurance provides financial protection against loss of or damage to property as well as losses due to injury to third parties and related claims. Again, it does this by pooling the risks over a large number of parties with similar potential liabilities.

In order to describe the application of a cash flow tax to the financial services provided by insurers, this paper utilizes various models of insurance activities to present and analyze results. The models used abstract from some important elements in the activities of insurers, because they do not affect the analysis as far as a cash flow tax is concerned. For example, central to an insurer's activities is its analysis and control of risk in the policies it writes. However, taxation deals with the results actually obtained on an ex-post basis, and thus the analysis for tax purposes can largely ignore many of the considerations attached to the risk assessment and pooling behavior of the insurer. Nevertheless, it is useful to outline briefly more general models of insurance as a background to the discussion. This allows the discussion of cash flow taxation of insurance services to be appreciated in a more general context. This discussion also introduces certain terms which are utilized later in the discussion. Finally, the discussion is based on a distinction between life and general insurance, but as will be seen, the structure of a cash flow tax is not related to these distinctions, but to the underlying nature of the financial services provided.

Single-period Models

The time and uncertainty aspects of insurance can be incorporated into models which describe the functioning of insurance policies and insurance companies. A single-period model can be used to show the essential functioning of a general insurance business and to create the basis for a multi-period model that includes a savings element and is applicable to life insurance.

Under a single-period model, the insurance firm raises equity capital and writes insurance policies against that capital. In the single-period model, the firm is assumed to raise equity capital and sell the policies at the beginning of the period and settle the claims at the end of the period. It earns investment income from the investment of the capital and premiums in the interim. The profitability of a general insurance company under this single-period model can be expressed as:

$$Y^\wedge = r^\wedge(P+E) + P(1-L^\wedge) - vP - F$$

where:

Y	
r	
P	
E	
L	... relative to premiums collected);
v	... charge of premiums
F	

and the symbol ^ attached to any variable denotes uncertainty of results viewed from the start of the period.

The insurer in this model would attempt to maximize profitability taking into account the uncertain nature of investment returns and claim loss ratios. The control of this uncertainty through diversification and pooling of risks is at the heart of the insurance business. The specification of uncertainty in the model allows the derivation of certain general results in respect of property and casualty insurance.[2] The model can also be extended to recognize that policies are written continuously and claims are settled continuously. This means that premiums have been received during the year that relate to claims that will arise in the future (creating the requirement for an unearned premium reserve) and claims will have occurred, which will not yet have been settled (creating a need for an unpaid claims reserve on company books). Under these models, the crucial management decision as to the amount of policies to be written can be specified and it can be shown that the general insurer will keep writing policies until the underwriting loss (defined as claims loss provisions) is just offset by the investment income generated.

However, in looking at taxation and the application of a cash flow tax, one can ignore the effects of uncertainty as the tax system deals with actual results. Therefore, the single-period models developed later to show the application of cash flow VAT starts from an initial specification which abstracts from the uncertainty contained in the full model. The model used also concentrates on the value added which is the base for the tax, rather than income. (Further simplifying assumptions are also introduced. For example, the contribution of equity by shareholders and the payment of dividends on equity are ignored for cash flow VAT purposes, [as discussed in Ernst & Young 1993 and 1994]. In consequence, flows related to equity are also abstracted from in the models used.)

To understand fully the role of a cash flow tax, the models looked at must also be extended to cover multi-period models. The insurance being considered may also include a savings element in the premium (i.e., an amount which will be returned to each policy holder at some point in the contract), as well as an investment intermediation component, whereby the insurer charges a margin to the policy holder on their savings, or to the users (borrowers) of the capital available to the insurer in the form of premiums not yet disbursed as claims.

Multi-period Models

A description of life insurance leads to multi-period models incorporating all these features.[3] As has been noted, almost all life insurance contracts involve two essential components; a risk protection element and a savings element.

Risk Protection Element

Life insurance provides financial protection against the risk of mortality over a period of time. In order to provide this insurance while maintaining the ability to continue in business, the insurance company pools the risks on a large number of lives either directly or through reinsurance arrangements with other companies. The life industry is also heavily involved in providing employee benefit packages, including extended health care, income replacement during illness, dental care and pension plans, and accordingly, is often referred to as the life and health insurance sector.

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[2] This discussion is based on Hill [1979], Fairly [1979] and Booth [1987].
[3] This discussion is based on Hawley [1991] and Strain [1993].

An insurance contract could be issued on a yearly renewable term (YRT) basis. Under such a contract, a group of individuals would contract to pay a premium each year to secure insurance coverage for that year. The annual premium, after deduction of a margin for expenses and profit, would represent the amount estimated by the insurance company as being required to pay claims. This amount, sometimes referred to as the annual cost of pure insurance or mortality cost, would be allocated among the policy holders on the basis of the probability that the person whose life is insured under the contract will die during the year. These estimates are based on mortality tables compiled by the actuarial profession.[4]

A hypothetical mortality pattern for a group of 100,000 males who are 40 years old and do not smoke is set out in figure 1. If the group was insured for $1,000 each on a yearly renewable term basis, the estimated claims experience and resulting allocation of the mortality cost could be as shown in the table. The individuals insured under such a plan would face an escalating premium as the mortality cost rose over time as the insured group aged.

Figure 1
Male Non-Smoker, Age 40, 100,000 Insured Lives, $1,000 Death Benefit (No Load)

Age (years)	Lives (number)	Deaths (number)	Mortality Cost (dollars)*	Claims (dollars)
40	100,000	68	0.68	68,000
50	98,585	270	2.74	270,000
60	93,507	886	9.48	886,000
70	78,693	2,325	29.55	2,325,000
80	48,332	3,692	76.39	3,692,000
90	13,191	2,442	185.13	2,442,000
100	608	268	440.51	268,000

* Mortality cost equals claims divided by lives.

The mortality experience reflected in the table indicates that 68 individuals included in the group of 100,000 will die within one year after the policies are issued. The claims payable by the insurer would, therefore, amount to $68,000 (68 times $1,000) during the first year. To cover this mortality cost, the insurer would have to charge each policy holder $0.68 for $1,000 of insurance coverage at age 40.

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[4] Numerous mortality tables are assembled in one form or another for a variety of purposes. This table is taken from Strain [1993] and is based on 1969-1975 mortality tables published in Proceedings of the Canadian Institute of Actuaries, vol. 16 (Toronto: CIA).

Thirty years later, 78,693 of the individuals in the original group (now aged 70) are expected to still be living. Of that group, 2,325 are expected to die during that policy year. Claims payable by the insurer during that year would therefore amount to $2,325,000. Spreading that cost over the group insured at the beginning of the year results in a mortality cost of $29.55 each ($2,325,000 divided by 78,693).

Accumulation Element

Life insurance policies are rarely issued on a YRT basis.[5] Whether the policy covers a specified term or provides permanent coverage, the premiums paid during the early years of the contract almost always exceed the amounts required to cover the mortality cost for those years. The most common policies historically have been those that provide for a constant annual premium over the life of the policy, or, at least, significant portions of the policy life. Under such arrangements, the premiums paid during the initial years will enable the insurance company to accumulate funds to defray the mortality costs during the later years of the contract, when the annual premiums will not be sufficient to cover those costs. The accumulation of funds under the policy is referred to as the creation of a reserve for the policy.

The pricing and performance of a policy determined by the reserves (accumulating funds) of an insurance company has been described as follows [Strain 1993. 35:4-35-5]:

"The reserves (accumulating funds) of the insurance company affect the pricing and performance of a policy in two ways. The premium deposits added to the reserves are invested by the insurance company and accumulate over time to defray future mortality costs. The reserves also reduce the risk for which the insurance company is responsible. The accumulating funds related to a particular policy are available to pay a claim under the policy. Consequently, the 'net amount at risk' under the policy is the excess of the amount of the death benefit payable over the related accumulating fund. The annual mortality charge under the policy is applied only to the 'net amount at risk.' Figure 2 depicts a typical pattern of the growth of the accumulating fund and reduction of the net amount at risk under a permanent life policy providing a level death benefit of $100,000.

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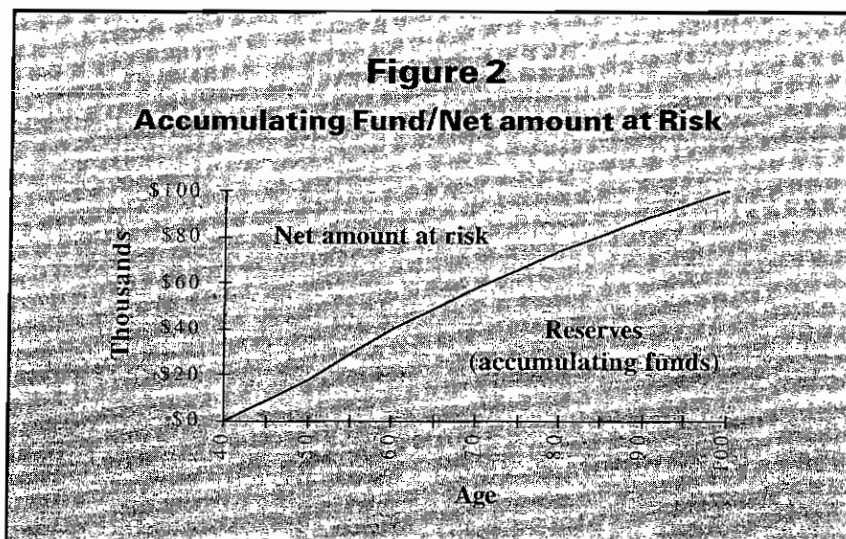
[5] This form of policy is not very viable. One example of the problems that would arise would be the withdrawal of the lowest risks from the plans in later years to avoid the very high cost of insurance in these years (adverse selection).

Where the accumulating fund grows to equal the total death benefit payable, the policy is said to endow. The net amount at risk under the policy is completely eliminated at that time.

Under most permanent life policies, there is a direct relationship between the accumulating fund and the cash surrender value (CSV) of the policy. The CSV is the amount that the policy holder may be entitled to withdraw from the policy or to receive upon the cancellation or the surrender of the policy. Within a few years after the issue, the CSV of most permanent life policies will approximate the value of the accumulating fund.

Another type of policy is referred to as a 'term to 100' policy. The CSV of many such policies is significantly less than their related accumulating funds. When such a policy either lapses because of the non-payment of premiums or is surrendered, the excess of the policy's accumulating fund over its CSV becomes available to pay the claims of other policy holders. In determining the level of premiums to be paid for such policies, the insurance company's pricing actuary will factor in the impact of these 'forfeitures' expected to arise as a result of projected lapses. This type of policy is referred to as being 'lapse supported.' The insurance company issuing policies on this basis is exposed to considerable risk should actual lapse experience prove to be lower than anticipated. This risk is heightened by the fact that the 'term to 100' product was introduced relatively recently and few empirical data are available on actual lapse experience."

In fact, in recent years, many new types of policies have become available that are sometimes referred to as "new money" policies. These policies often reflect steps taken by insurance companies to incorporate the higher rates of return that have been available in recent years into their pricing models in order to compete more aggressively for funds with other financial institutions. Under so-called "universal policies," the services incorporated into more traditional policies have been unbundled and more individually-tailored policies made available.

· However, whatever the mix of insurance attributes in a policy or the nomenclature applied to it, the application of the cash flow VAT in respect of such contracts relates to certain specific aspects of the underlying insurance coverage, the savings element in the premium, and the investment intermediation services provided by the insurer to its policy holders and to the users of the funds held by the insurer. The nature of insurance as it relates to the financial services taxable under a cash flow VAT is highlighted in the remainder of the paper.

Insurance and the Cash flow VAT

Several considerations are of particular note in describing and analyzing the application of a cashflow VAT to the financial services provided by insurers.

One distinction in the discussion that follows relates to whether the insurance in question is in respect of taxable property/services, (i.e. properties or services that are subject to VAT) or for non-taxable losses (e.g. loss of human life). This distinction is relevant in determining the cost of claims, as this cost is dependent upon the VAT rate applicable in the case of taxable properties, and the input tax credit entitlement of the claimant.

Another very important distinction is between single-period and multi-period insurance contracts. As will be seen, single-period contracts can generally be taxed like any other pro-

perty or service. However, multi-period contracts involve an implicit or explicit savings element, and this requires special consideration. It should be noted that the distinction between single-period and multi-period contracts is only relevant where the multi-period contracts involve a prepayment of insurance premiums for future insurance periods. In this situation, certain special considerations arise, which require recognition in designing the relevant VAT rules.

It can be noted that the two basic forms of insurance, namely property and casualty insurance and life insurance tend to differ in both these respects. Property and casualty insurance tends to involve taxable property/services and single-period contracts, while life insurance liabilities tend to involve non-taxable events and multi-period contracts. It is these differences which lead to the crucial analytical distinctions in looking at the two types of insurance. However, while this paper tends to use the terms property and casualty and life insurance as a short-hand for insurance with these types of characteristics, it must be remembered that some insurance contracts may, in fact, not fit the molds exactly (e.g. a property and casualty arrangement could involve a multi-period contract, or a life insurance contract could be for a single period). In such cases, the VAT rules applicable would generally need to be based on the underlying characteristics of the contracts, not the general classification of the type of insurance.

Few countries apply tax to insurance services, mainly because of the prevalence of multi-period contracts. A notable exception in this respect is New Zealand. Their approach is considered in more detail later in the paper.

VALUATION OF INSURANCE SERVICES

The basic elements of insurance arrangements can be set out schematically for the two major categories of insurance. This schematic arrangement is designed to identify the cash flows that occur in the basic insurance arrangements. It is, of course, these cash flows which create the taxable events in the application of a cash flow tax. It is important to understand the characteristics of each element in the cash flow, both as an aid to later analysis and also as a means of understanding why the cash flow approach is a conceptually-sound means of taxing insurance services.

Figure 3 shows the cash flows associated with life insurance contracts. Individuals make premium payments to the insurer, of $1,000 in the example. The insurance company invests the proceeds and receives $200 of interest. It subsequently pays out $1,100 in claims as a result of death or in policy surrenders to insured individuals. After the claims and surrenders have been settled, the insurance company is left with $100, which represents the value of services provided (before taking account of any inputs of goods or services used).

The value of insurance services is thus measured by the inflows of premiums and investment income less outflows in the form of claims and policy surrenders. This is exactly the effective tax base established on a cash flow basis, where all cash inflows are treated as taxable sales and all cash outflows are treated as creditable purchases.

Figure 3

LIFE INSURANCE

Individuals

Premiums

Investments

Death Claims

Policy Surrenders

Individuals

Premiums	1,000
Interest	200
Claims/ Surrenders	(1,100)
Value of Insurance Services	100

137
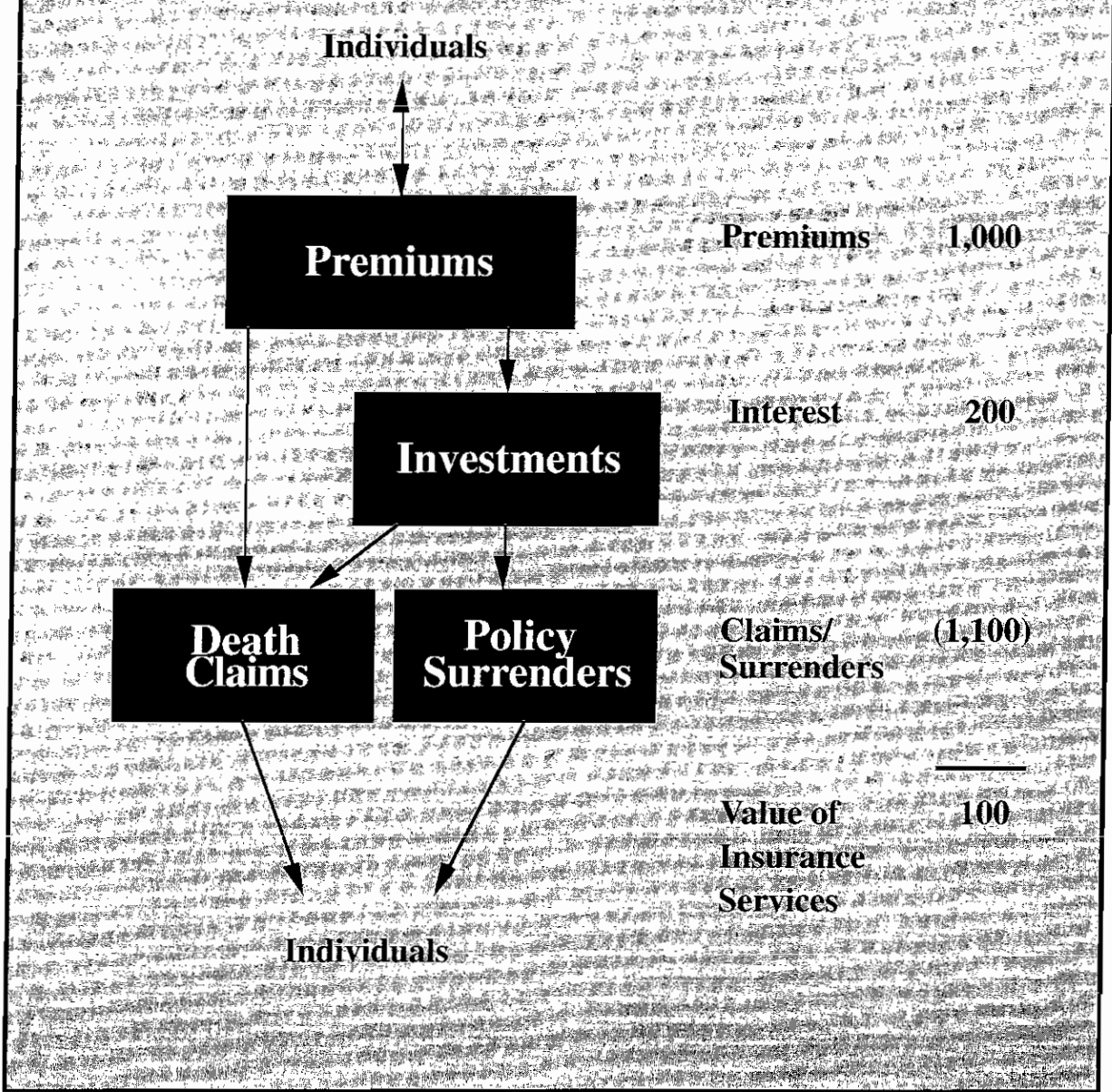
In the earlier reports, it was noted that the cash flows in banking activities can be classified into four types [Ernst & Young, 1994] The nature of each of these cash flows can then be considered and their appropriate tax status indicated. A similar classification can be made in respect of insurance, as follows. The appropriate treatment under a VAT is shown in brackets.

- The savings element of the premium that gives the insured individual a right to a future payment upon surrender of the policy and the return of this savings element upon a claim/surrender. (These payments merely represent transfers of funds and should not be taxable).

- The pure risk element of premiums representing the amounts charged to the insured by the insurer to cover the risk of claims under the policies. It is equal to the expected value of claims upon death, excluding any profit element or administrative cost of the insurer. (The pure risk component should not be taxable as it is only a redistribution of funds, that is a form of wealth transfer among the participants in the underlying transactions.)

- Pure interest payments on investments by insurer. (This is a compensation for deferral of consumption from one period to the next and should not be taxable under a consumption tax. These interest payments are income to the eventual recipient and should only be taxed as consumption if and when consumed.)

- The compensation to the insurer for the costs involved in collecting premiums, making investments and settling claims/surrenders. This includes the gross profit earned on behalf of shareholders, before a deduction of input costs. (This is the value added through financial intermediation by the insurer and is the appropriate tax base for a general consumption tax.)

The specific components above may be mingled together in the various cash flows associated with the insurance contract. For example, the premiums paid by individuals include both a savings element and a payment for the pure risk assumed by the insurer. However, as has already been noted, taxation of all the cash inflows and outflows means that, in effect, only the value added of the insurer is taxed, once tax payments less input tax credits for the insurer are considered.

The basic characteristics of the typical general insurance (or property and casualty) contract can be quickly summarized. This insurance sector provides many types of insurance designed to cover specific risks. The main risks include protection of individuals and organizations against losses due to theft, fire or other physical damage, as well as liability claims resulting from injuries to other persons or their property. Common products include automobile, property, liability, marine, aircraft and surety insurance. Customers may include individuals, businesses, and non-profit and government organizations. In this type of insurance, claims often are associated with taxable events such as the purchase of replacement property. Single-period contracts are the norm.

Figure 4 provides a schematic diagram of the cash flows associated with property and casualty insurance activities. In this case, households, business and others (e.g. non-profit organizations and government and their agencies) may be obtaining insurance for their risks and paying the associated premiums. The insurer receives interest on premiums invested. There is then a cash outflow associated with loss or damage claims. The amount remaining after the damage claims are netted against the cash inflows from premiums and interest is the value of services rendered by the insurer.

Figure 4

PROPERTY & CASUALTY INSURANCE

Households   Business   Other

Premiums

Premiums   1,000

Investments

Interest   200

Damage/Loss Claims

Claims   (1,100)

Value of   100
Insurance
Services

Households   Business   Other
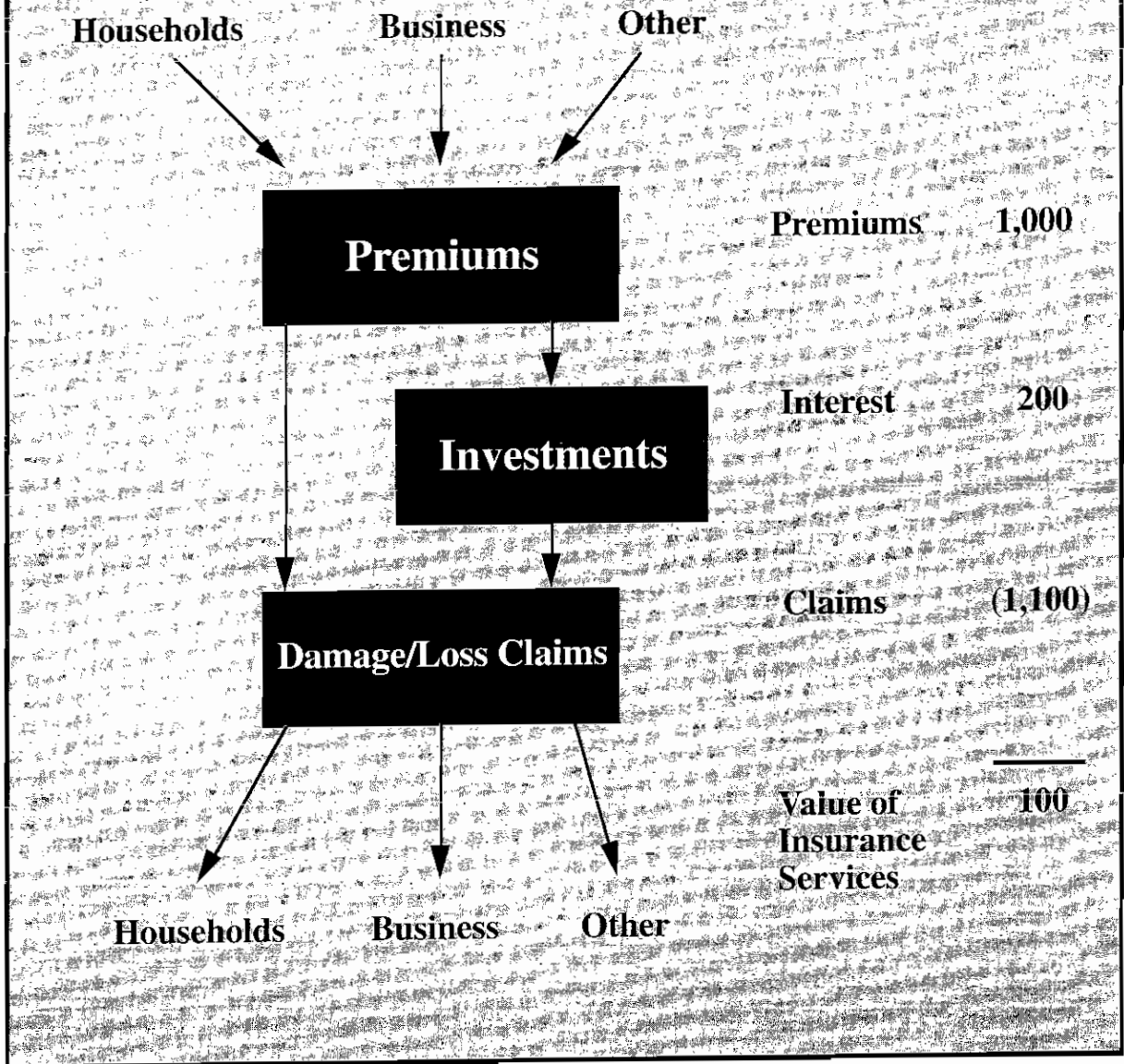
One could classify the cash flows in a similar fashion as was done for life insurance. The principal difference would be that there is no savings element in property and casualty contracts. Again, it can be shown that taxation of all the cash inflows as taxable sales and the granting of credits on cash outflows will lead to an ultimate tax base consisting only of the value of the insurance services.

INCOME TAX RULES FOR INSURANCE

A useful reference point for understanding the application of VAT to insurance services through a cash flow tax is the income tax rules for insurance. The tax base for income tax bears some similarities to that for VAT in that the income of an insurer equals the value of intermediation services of the insurer, minus wages, interest and other (material and supplies) costs. Many of the issues surrounding the identification of the value of intermediation services of an insurer are thus addressed in the income tax rules and can provide guidance and insight for definitional issues in respect of a cash flow VAT.

In general, the value of insurance services should be the same under income tax and VAT systems, leaving aside the differences that relate to the origin basis for income tax and the destination basis for VAT. The two differ in respect of the deductions allowed and their timing. Neither wages nor interest are deductible under VAT. Fixed capital costs are deductible (give rise to an input tax credit) when incurred for VAT, while they must be capitalized and deducted over the useful life of the asset in the case of the income tax.

The value of insurance services for income tax purposes is measured as the inflows of premium and investment income, minus outflows of claims and policy surrenders. This is essentially the same base as exists for a cash flow VAT (again ignoring any differences introduced by the origin versus destination basis of the two taxes). However, income tax systems then utilize four special deductions to insurers to create the correct matching of revenue and expenses over time.[6] These deductions are:

■ A: *Unearned premium reserves:* Property and casualty insurance companies are allowed to claim an unearned premium reserve that recognizes the fact that premiums received in a given year may be in respect of coverage for subsequent periods. For example, coverage for one year written at the mid-point of the insurer's tax year would be partially in respect of the following year. The unearned premium reserve allows the matching of a portion of these revenues against claims (expenses) in the following tax year.

■ B: *Policy reserves:* Policy reserves allow a life insurer to set aside an amount out of each premium on a pre-tax basis to be accumulated together with the interest thereon to meet its obligations under its life insurance contracts. In general terms, the reserve that can be set aside for this purpose is equal to the expected value of future claims minus the expected value of future premiums. This is equivalent to the savings component of premiums already received, or the increase in the accumulating fund.

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[6] The income tax rules for insurance companies have often proved problematic in that the measurement of income under generally accepted accounting principles and the principle of conservatism may lead to levels of deductions which tax authorities consider to underestimate income as appropriate for income tax purposes. As a result, the specific rules vary from country to country and may often incorporate specific ad hoc provisions limiting the size of these deductions.

■ C: *Reserves for losses incurred but not yet paid:* Property and casualty insurance companies and life insurance companies may both be entitled to deduct reserves for two types of situations where losses have been incurred, but claims have not yet been paid. The two situations relate to claims that have been reported, but that are not yet settled, and to claims that have been incurred, but not yet reported. The latter reserve is typically based on experience of the type of lags that occur in the reporting of claims.

■ D: *Reserves for expected future claims for past losses:* An additional reserve may be available for losses that can arise in respect of risks that are not fully identifiable at the current time in respect of past losses. This type of reserve arises in respect of product liability such as pharmaceuticals, where the claims for past losses may only become apparent at a point in the future.

These deductions are crucial to measure income correctly for insurers and are generally available under regulations applicable to the sector (promulgated by government regulators of the sector) or the accounting rules guiding such businesses. They are also available under the income tax rules, but there may be some specific statutory rules limiting such reserves or specifying particular approaches to be used. As will be outlined below, a basic cash flow VAT does not require computation of any of these reserve amounts, as the appropriate adjustments are handled automatically as part of the cash flow structure. However, there are some transitional difficulties and liquidity issues in respect of these reserves which are dealt with under the TCA through an adjustment for the amounts described under category "B: Policy reserves."

BASIC ELEMENTS OF INSURANCE SERVICES

As has been noted, financial services provided by insurers actually consist of two basic elements. These are insurance intermediation services and investment intermediation services.

Insurance intermediation involves pooling of risks. It constitutes a service which can be charged for and the consideration for the service are the costs associated with carrying out the necessary functions to pool risks, plus a profit margin for the insurer for undertaking the risks associated with the insurance business.

Insurance is also a business that provides investment intermediation services. Insurers provide services of pooling and investing savings in respect of the premiums that are collected under multi-period contracts, and which are not immediately used to pay claims/benefits or distributed as profits to the shareholders of the insurance company. This type of investment intermediation is not conceptually different from that provided by other financial intermediaries rendering the services of intermediation between borrowers and lenders, and of pooling of savings. Again these are financial services which create value added and which can be charged for in the marketplace. It is important to note that the investment intermediation services being provided may be of benefit both to the insured parties and the borrowers that receive funds as loans or in other forms from the insurer.

It might also be noted that the mere existence of a multi-period contract does not necessarily entail positive investment intermediation services. An insurer earning just the pure rate of interest, and crediting the same interest to the policyholders would be providing exclusively insurance intermediation services.

The distinction between risk intermediation services and investment intermediation services is very important for analytical purposes. However, most insurance contracts will involve both elements and it is not practical to isolate them in most actual situations. An example of insurance without significant investment intermediation services is travel insurance, where the gap between the commencement and termination of the insurance contract is relatively short. However, even in single-period contracts in which the premium is collected at the beginning of the period, there is usually an investment intermediation service. Therefore, investment activity is an important part of the overall activity of insurers.

Since investment intermediation can be positive under both general and life insurance policies, this distinction is not drawn in the detailed discussion of applying a cash flow VAT to financial services provided by insurers. It is the basic elements of insurance that are looked at, and not the type of loss that is insured.

Examples of Insurance Services

In order to describe the functioning of a cash flow tax and of the truncated cash flow tax with TCA as applicable to insurance services, a specific example of an insurance service activity is utilized. The assumptions about the nature of the services and the parameters used are described in this section. Two situations are covered: one involving an insurance product not incorporating any investment intermediation and the other an insurance product that includes both pure insurance intermediation and investment intermediation.

Insurance Intermediation without Investment Intermediation

The basic set of assumptions for the model in which there are no investment intermediation services incorporated in the model are:

■ Pure rate of interest equals 12%.

This is the rate of interest which excludes all elements of financial services. It represents purely the time value of money based on the deferral of consumption from one period to the next. In the study Ernst & Young [1994], it was suggested that this might best be approximated by a short-term government rate.

■ Pure insurance or underwriting risk (calculated using a discount rate) of 12%) equals 100.

The present value of all the claims under the insurance contracts being considered are 100 currency units, where the actual claims of 112 are discounted to the start of the period at a discount rate of 12% (i.e. the pure rate of interest).

■ Operating costs of risk pooling, including insurance profit, equals 25.

This represents all the costs associated with insurance intermediation such as identifying customers, evaluating risks, accepting premiums, evaluating claims and settling claims. It also includes any purchased inputs of goods or services which would generally qualify for input tax credit relief, as well as the profit margin of the insurer, which would compensate the owners for use of their equity capital.

■ Return on prepayment of insurance premiums (net of risk pooling costs) equals 12.

The return on the prepayment of insurance premiums is the income earned by the insurer on the amount available to be invested until the claims are settled at the end of the period, and is equal to 12. The investment of the premiums thus earns the pure rate of interest.

■ Claim costs equal 112.

The value of the claims made at the end of the period is 112. This has a PDV of 100 considered from the perspective of the start of the contract.

The value of insurance services in the period is equal to the sum of the pure insurance risk, the cost of risk pooling and the return on the investment of premium prepayments less the value of the claims. The total value of the services rendered is thus 25 (which equals $100 + 25 + 12 - 112$). It can be readily seen that this represents just the value of the insurance intermediation services. As indicated earlier, it does not include the savings element of premiums, the claims, or the pure rate of interest. The insurance intermediation services are the only elements of value added in the insurance activity and thus the only element which should be taxable under a general consumption tax such as a VAT.

The investment intermediation services are nil because the return on investment and the discount rate are both set equal to the pure rate of interest of 12%. The model would be equally applicable to (hypothetical) situations where the premiums and claims where coincidental and there was no time to earn any investment return.

In the later examples utilizing this fact situation, as well as the one for insurance intermediation with investment intermediation services, a VAT rate of 10% is assumed.

Insurance Intermediation with Investment Intermediation services

The basic set of assumptions for the model in which investment intermediation services are provided is as follows:

■ Pure rate of interest equals 12%.

The pure rate of interest is the same as in the first case, where no investment intermediation services are provided.

■ Pure insurance or underwriting risk (calculated at a discount rate of 7%) equals 105.

The present value of all the claims under the insurance contracts being considered are 105, where the actual claims are discounted to the start of the period when the premiums are paid at a discount rate of 7%. This rate of 7% is the rate of interest that is credited to the insured party as part of setting the premiums for the policy.

■ Operating costs of risk pooling, including insurance profit equals 25.

The amount of insurance intermediation services is 25, as in the previous model, which excluded investment intermediation.

■ Return on prepayment of insurance premiums (net of risk pooling costs) equals 15.

The return on the prepayment of insurance premiums, that is the amount available to be invested by the insurer until the claims are settled at the end of the period, is equal to 15. The investment of the premiums thus earns an interest rate that incorporates a margin for investment intermediation services such as the pooling of savings.

■ Claim costs equal 112.

The value of the claims made at the end of the period is 112, as in the initial model.

The value of insurance services in the period is again equal to the sum of the pure insurance risk, the cost of risk pooling and the return on the investment of premium prepayments less the value of the claims. However, the total value of the services rendered is now 33 (which equals $105 + 25 + 15 - 112$). The value of the services provided now includes not only the insurance intermediation services (equal to 25), but also the value of investment intermediation services totaling 8. The investment intermediation services consist of 5 currency units of services rendered by the insurer to the insured (consisting of the pure rate of interest of 12 less the return credited to the insured of 7) and 3 units of services rendered to the user of the premium prepayments (consisting of the interest rate of 15 charged to the borrower less the pure rate of interest of 12).

The investment intermediation services represent the margin between the investment return earned by the insurer and the amount credited to the insured in setting the premiums.[7]

INSURANCE WITHOUT INVESTMENT INTERMEDIATION

Basic Cash flow System

The earlier studies indicated that a basic cash flow method of tax gave rise to the correct amount of tax being collected from the financial intermediary and the correct amount of input tax credits being available to registered depositors/borrowers in the case of a banking deposit/loan activity. The "basic cash flow method" is one in which financial intermediaries (i.e. suppliers of financial services) and registered customers (i.e. persons that were registered for the tax in respect of their commercial activities and eligible to claim input tax credits in respect of the tax paid on financial services utilized) both calculated tax on a cash flow basis in respect of their financial transactions. This section derives similar results in respect of insurance services. It considers two situations: single-period insurance contracts and multi-period contracts. Single-period contracts are those in which there is no opportunity for the insurer to earn a return on investment of premiums. Multi-period contracts are ones in which there is time to earn such a return. Before providing this analysis, consideration is given to the appropriate amount of VAT that should arise in respect of the insurance claims and to certain presentational issues.

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[7] It can be noted that the parameters used in respect of the investment intermediation services and the pure rate of interest are the same as in the two earlier studies, Ernst & Young [1993] and Ernst & Young [1994], for the deposit and loan banking transactions. The use of the same parameters in respect of the investment activity simplifies comparisons with the earlier analysis.

Aggregate VAT to be Collected under a Cash flow VAT

In considering the aggregate VAT which should be collected, there are two basic situations. These relate to the situation in which the liability being insured relates to a taxable property and the situation in which the liability does not relate to a taxable property.

The liability relates to a taxable property in situations where settlement of the claim consists of replacement of a defective, damaged or destroyed property by the insurance company and the purchase of the replacement property is a taxable event. Alternatively, a claim may be paid in cash and the purpose of the claim is to allow the insured to purchase a taxable replacement (although the funds may not always be used for this purpose). Examples of this type of insurance include automobile collision insurance, fire insurance, warranties and theft insurance.

In the second case, the payment of the claim cannot be considered to be related directly to a taxable event. In this case, the insurer will normally pay the claim in cash and there is no presumption about the purpose to which the cash will be put. Examples of this type include life insurance, employment income insurance and disability insurance.

This distinction is important for the current discussion in two respects. First, from the insured and insurer perspective, the situations dealing with taxable properties require that the claims for the property itself be grossed-up by the value of the associated VAT in order to allow the insured to be in an equivalent position to before the loss occurred. Where the claim is not in respect of a taxable property, such a gross-up is still required, but for different reasons as explained later. Second, as discussed immediately below, the aggregate VAT implications of the two cases are different.

Where a taxable property is involved, the provision of insurance, the loss, the claim payment and the purchase of the replacement property should have two VAT implications. First, there should be VAT paid on the insurance service provided. This, of course, is the fundamental issue being considered in this paper. Second, the purchase of a taxable replacement property should give rise to VAT. In cases where business customers are involved as the insured and the property is used in their commercial activities, both of these VAT payments should lead to input tax credits being claimed. As a result, no net tax is collected in respect of these transactions by the government. However, if final consumers are involved, there should be net tax collected in respect of both the insurance service and the purchase of the replacement good.

It is useful to provide a simple example of the implications of the purchase of the taxable replacement property. Assume that ten persons purchase a taxable property and obtain insurance for the loss or destruction of the property. The insurance ensures that all ten persons will have guaranteed use of a property of the type insured for the period. Assume the loss experience is 10%, so that one of the properties must be replaced in every period. When the loss occurs and the replacement property is purchased (either by the insurer or by the insured after receiving funds settling a claim), VAT will be due on the replacement property. In an aggregate sense, eleven such properties must be purchased for ten to be enjoyed throughout each period. All eleven are part of consumption and should be subject to VAT. It turns out that, as an expository device, it is useful to include the taxable purchase of the eleventh (replacement) property in the examples. By including this purchase, the workings of the cash flow VAT are clarified, and the total VAT collected (after all VAT payments and credits) will

always be the same. Where registrants engaged in commercial activities are involved, the net tax will be zero. This result will be arrived at by payment of tax on the value of the insurance service and the replacement property being offset by the claiming of input tax credits by either the insurer or the business customer. Where final consumers are involved, the net tax will be equal to the tax rate times the value of the insurance services plus the tax rate times the replacement cost of the property. By including the replacement property purchase in the examples, recourse can be made to these identities to ensure that the conceptually correct result is being achieved.

These considerations do not come into play where the claims are not in respect of taxable properties. In this case, the net VAT will be zero when registrants are involved. The only tax collected and claimed as an input tax credit will be the amount in respect of the insurance services. When final consumers are involved, the net tax collected will be equal to the tax rate times the value of the insurance services.

Three further points should be noted in respect of the examples. First, cash flows can be either tax inclusive or tax exclusive. Where they are tax exclusive, the amount of tax or input tax credit can be determined by taking the VAT rate assumed times the amount of the cash flow. Where they are tax inclusive, the tax component can be calculated as $t/(1+t)$, where t is the VAT rate. Considerable care is taken in the examples to specify whether a given cash flow is tax inclusive or tax exclusive, and to identify the tax elements of tax inclusive flows.

Second, all the examples include an operating cost of risk pooling, which consists of wages and salaries paid to employees, profits paid to shareholders and the purchase of material and service inputs. This is the value of services rendered by the insurer. It is assumed in the multi-period examples that none of this margin is invested in the short-term by the insurer. This is equivalent to assuming that the amounts are expended immediately or are kept as non-interest bearing cash balances until expended. This has no effect on the basic results, but makes the example much clearer and more comparable with each other.

Finally, the general activities of the insurer will be supported by the infusion of equity by shareholders in the case of stock companies. As was discussed in the earlier papers, such cash inflows and outflows (through dividends and redemption of capital) are ignored in the cash flow system. They are thus not shown in the examples provided.

Single-period Contracts

As noted, single-period contracts are defined to mean a contract of relatively short duration where there is no opportunity for the insurer to earn a return on the investment of premiums. This model allows consideration of how the basic cash flow model works when only insurance intermediation is involved, and there are no tax calculations arising as a result of any return on investment whatsoever.

Under the basic cash flow model, the full premiums are treated as taxable sales. This is consistent with the general rule that cash flows from financial transactions are treated in the same fashion as flows from non-financial purchases and sales. The claims are then treated as taxed purchases. As a result, the insurer is allowed to claim an input tax credit in respect of the claims paid in cash. Goods and services purchased by the insurer to settle the claim give rise

to input tax credits under the normal system. The insurer is allowed to claim a credit in respect of claim payments regardless of whether the claim is paid to a registrant or a non-registrant. Business registrants are allowed to claim a credit for the tax paid on premiums, and required to pay tax on claim receipts as taxable sales.

Figure 5 provides a numerical example of the operation of this system for a case in which there is only a single customer who pays the premium and makes a claim. This is, of course, an unrealistic case, as it does not incorporate risk pooling, which is the essence of insurance contracts. However, it does provide a useful means of introducing certain concepts and results, and serves as a point of comparison for later, more realistic cases. An insurer and a business customer are involved in the insurance contract and both would carry out cash flow calculations under the basic model.

Figure 5

Basic Cash flow System
Illustrative example: Single-period model
Single contract insurance without investment intermediation

	Pre-tax Cash Inflow/(Outflow)	Associated Tax Received/(Pay)	Total Cash Inflow/(Outflow)	Taxes Remitted/(Credited)
Insurer				
Premium Receipt	125.0	12.5	137.5	12.5
Claims Payment	(100.0)	(10.0)	(110.0)	(10.0)
Net Tax				2.5
Business Customer				
Premium Payment	(125.0)	(12.5)	(137.5)	(12.5)
Claims Receipt	100.0	10.0	110.0	10.0
Replacement Property	(100.0)	(10.0)	(110.0)	(10.0)
Net Tax				(12.5)
Goods Supplier				
Taxable Sale of Replacement	100.0	10.0	110.0	10.0
Net Tax				10.0
Government				
Net Tax Received				0.0

The first three numerical columns deal with the cash flows experienced by the various parties. The first numerical column shows the cash inflows (positive) and outflows (negative) on a tax exclusive basis. The second numerical column indicates the cash flow related to tax that would occur in respect of the underlying transaction. The third numerical column shows the tax inclusive cash flow and is the sum of numerical columns one and two. The final column shows the tax flows to and from government. It indicates taxes remitted (positive) and credits claimed (negative). It should be noted that the tax is remitted by the person collecting the tax.

The insurer initially receives premiums of 125 and pays tax of 12.5 at the assumed 10% VAT rate. When the claim of 100 is settled, the insurer also pays out an amount of 10 to cover the tax which will be required for the insured to purchase a replacement property. The insurer receives a credit of 10 in respect of the latter cash outflow, which can be recovered from the government. The insurer thus pays a net amount of VAT to the government of 2.5, which is the desired amount of tax on the value added from insurance intermediation of 25. The business customer receives a credit of 12.5 on the premium payment of 125, and a tax of 10 is paid when the claim of 100 is settled. The business customer also receives a credit of 10 in respect of the VAT charged on the purchase of the replacement property for 100. The business customer thus receives a net input tax credit of 12.5 covering the VAT paid in respect of the insurance services received and the regular VAT paid on the purchase of the replacement property. Overall, the government collects no net tax revenue from the transactions, as required when the customer is a registrant. On the other hand, if the insured persons were not registered, they would not compute tax on a cash flow basis and no credits would be provided. In this case, the government would retain the full tax of 2.5 collected from the insurer and the 10 collected from the supplier of the replacement property. Again, this is appropriate, in that an insurance intermediation service of 25 has been provided to a final consumer, as well as consumption of an additional 100 in the form of the replacement property.

Figure 6 extends the previous case to include the risk-pooling aspect of insurance. In this example, there are two customers. Each pays half of the total premium, or 62.5 to obtain insurance coverage from the insurer. One of the customers suffers a loss, while the other does not. Otherwise, the basic fact situation as to total premiums and total claims is the same as in the previous example. While only two customers are shown, the example brings out all the crucial points in applying VAT to a single-period contract with no investment intermediation.

Figure 6

Basic Cash flow System
Illustrative example: Single-period model
Two insurance contracts without investment intermediation
Insured parties are registrants

	Pre-tax Cash Inflow/(Outflow)	Associated Tax Received/(Pay)	Total Cash Inflow/(Outflow)	Taxes Remitted/ (Credited)
Insurer				
Premium Receipt	125.0	12.5	137.5	12.5
Claims Payment	(100.0)	(10.0)	(110.0)	(10.0)
Net Tax				2.5
Business Customer A				
Premium Payment	(62.5)	(6.25)	(68.75)	(6.25)
Claims Receipt	0.0	0.0	0.0	0.0
Net Tax				(6.25)
Business Customer B				
Premium Payment	(62.5)	(6.25)	(68.75)	(6.25)
Claims Receipt	100.0	10.0	110.0	10.0
Replacement Property	(100.0)	(10.0)	(110.0)	(10.0)
Net Tax				(6.25)
Goods Supplier				
Taxable Sale of Replacement	100.0	10.0	110.0	10.0
Net Tax				10.0
Government				
Net Tax Received				0.0

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The calculation of tax by the insurer is the same as in the previous example and net tax of 2.5 is remitted to the government in respect of the insurance intermediation services of 25. Business customer A claims an input tax credit of 6.25 which is 10% of the premium of 62.5. Business customer A thus pays no net VAT, as the 6.25 payment of tax to the insurer is offset by a credit of 6.25. There are no further cash flows for this insured party and thus no further tax calculations. Business customer B also claims a credit on the initial cash outflow in the form of a premium. However, this insured party subsequently receives a cash inflow of 100 in settlement of a claim under the policy. Tax of 10 is payable on this amount. Business customer B then purchases a replacement property, giving rise to tax of 10, which allows a credit to be claimed from the government of the same amount. The business customer is thus left with a net tax credit of 6.25 to cover the tax paid in respect of the insurance services, which places him in an equivalent real position to before the loss was incurred.

Under this basic cash flow structure, both premiums and claims are grossed-up by the amount of the tax. The treatment of single-period insurance without any investment intermediation is thus identical in operation to that of the standard credit-invoice system.

An alternative situation would be for the insurer to purchase the replacement property and provide it to the insured party. This situation is shown in figure 7. The insurer now purchases the replacement property and receives an input tax credit under the normal VAT rules. The net tax remitted is 2.5, which is appropriate, as it represents the tax rate of 10% times the value of the insurance service of 25. Both the insured parties claim the input tax credit of 6.25 associated with the premium payments. There are no tax consequences for the insured party suffering the loss when the replacement property is received. The net tax collected by the government would be zero. The taxes collected on the insurance service (2.5) and the taxable replacement good purchase (10) are exactly offset by the input tax credits claimed by the insured parties on their premiums.

Figure 7

Basic Cash flow System
Two insurance contracts without investment intermediation
Insured parties are registrants
Insurer purchases replacement Property

	Pre-tax Cash Inflow/(Outflow)	Associated Tax Received/(Pay)	Total Cash Inflow/(Outflow)	Taxes Remitted/ (Credited)
Insurer				
Premium Receipt	125.0	12.5	137.5	12.5
Claims Payment	(100.0)	(10.0)	(110.0)	(10.0)
Net Tax				2.5
Business Customer A				
Premium Payment	(62.5)	(6.25)	(68.75)	(6.25)
Claims Receipt	0.0	0.0	0.0	0.0
Net Tax				(6.25)
Business Customer B				
Premium Payment	(62.5)	(6.25)	(68.75)	(6.25)
Claims Receipt	Receives replacement property			0.0
Net Tax				(6.25)
Goods Supplier				
Taxable Sale of Replacement	100.0	10.0	110.0	10.0
Net Tax				10.0
Government				
Net Tax Received				0.0

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It is also instructive to consider one example where the insured parties are final consumers and thus cannot claim input tax credits in respect of taxes paid. Figure 8 sets out the example, again involving two insured parties. The situation in respect of the insurer is identical to that in the previous example. They remit net tax of 2.5 to the government, which is the amount of tax desired on the insurance intermediation services. Insured Consumer A includes an amount of 6.25 in respect of tax in its payment to the insurer. As final consumer, it is not eligible to recover this tax. Non-registrants do not remit tax to the government or receive credits. The financial institutions are responsible for collecting the tax and remitting it to the government. Consumer B, who suffers the loss, receives an amount of 110 which allows purchase of a re-placement property inclusive of tax, but no input tax credit can be claimed in respect of the purchase. The tax of 10 collected by the seller of the replacement property is remitted to the government. The insurance contract and the associated purchase of a replacement property give rise to tax of 12.5 consisting of 2.5 tax on the insurance intermediation services of 25 and 10 of tax on purchase of the replacement property.

Figure 8

Basic Cash flow System
Illustrative example: Single-period model
Two insurance contracts without investment intermediation
Insured parties are final consumers

	Pre-tax Cash inflow/(Outflow)	Associated Tax Received/(Pay)	Total Cash Inflow/(Outflow)	Taxes Remitted/ (Credited)
Insurer				
Premium Receipt	125.0	12.5	137.5	12.5
Claims Payment	(100.0)	(10.0)	(110.0)	(10.0)
Net Tax				2.5
Final Consumer A				
Premium Payment	(62.5)	(6.25)	(68.75)	0.0
Claims Receipt	0.0	0.0	0.0	0.0
Net Tax				0.0
Final Consumer B				
Premium Payment	(62.5)	(6.25)	(68.75)	0.0
Claims Receipt	100.0	10.0	110.0	0.0
Replacement Property	(100.0)	(10.0)	(110.0)	0.0
Net Tax				0.0
Goods Supplier				
Taxable Sale of Replacement	100.0	10.0	110.0	10.0
Net Tax				10.0
Government				
Net Tax Received				12.5

The above example could be readily modified to have the insurer purchase the replacement property. The insurer could then claim a credit in respect of the purchase, rather than as a cash flow credit in respect of the claims payment. The remainder of the results would continue to hold. The warranty model discussed in the paper Ernst & Young [1993: 42-46] is a specific example of this situation.

One further basic example can be provided. This involves the case in which the claim is not in respect of a taxable supply. The example deals with final consumers and is shown in figure 9. The only difference in the example is that the consumer does not purchase a replacement property, as the claim is not in respect of a liability related to a taxable property. There is thus no need to include a goods supplier in the model to present the complete set of cash flows and taxable transactions associated with the insurance contracts and claims. The claim is thus just for the amount of the insurance, although the claim continues to be for 110 (which is the amount dictated by the competitive forces implicitly determining the insurer's margins, size of premiums, etc.). It is important to note that the cash flow method requires that an input tax credit be available to the insurer in respect of the cash outflow. The availability of the credit ensures that net tax paid is 2.5, which is equal to the tax rate times the value of the insurance intermediation service. If no credit was available, the tax would apply to the gross amount of the premiums, rather than the value of the insurance service. As this example demonstrates, under the cash flow tax system, whether the claim relates to a taxable supply or not does not have any impact on the computation of tax by the insurer. Nevertheless, this result is somewhat counterintuitive, and it is useful to provide examples incorporating this feature so that the basis for this result can be observed. (As will be discussed later, the New Zealand cash flow system is flawed in its treatment of claims that are not related to taxable inputs.)

Figure 9

Basic Cash flow System
Illustrative example: Single-period model
Two insurance contracts without investment intermediation
Insured parties are final consumers
Claim not in respect of taxable supply

	Pre-tax Cash Inflow/(Outflow)	Associated Tax Received/(Pay)	Total Cash Inflow/(Outflow)	Taxes Remitted/ (Credited)
Insurer				
Premium Receipt	125.0	12.5	137.5	12.5
Claims Payment	(100.0)	(10.0)	(110.0)	(10.0)
Net Tax				2.5
Final Consumer A				
Premium Payment	(62.5)	(6.25)	(68.75)	0.0
Claims Receipt	0.0	0.0	0.0	0.0
Net Tax				0.0
Final Consumer B				
Premium Payment	(62.5)	(6.25)	(68.75)	0.0
Claims Receipt	100.0	10.0	110.0	0.0
Net Tax				0.0
Government				
Net Tax Received				2.5

Observations on the Examples

The examples provided set out both the underlying cash flows that provide the base for the cash flow tax and the cash flows inclusive of tax which would be the amounts observed in some cases. When the cash flows are tax inclusive, the tax amount incorporated in the cash flow can be determined using the tax fraction factor $t/(1+t)$, where t is the VAT rate.

The first example of a single-period contract shows that the cash flow system gives the appropriate result of applying the tax to the value of intermediation services of 25. The tax is fully credited to the insured person, where it is a business acquiring insurance for use in a taxable activity. However, this example is uninteresting because it does not involve any risk pooling. There is only one insurance contract. To show the application of tax to a risk-pooling arrangement, you need at least two contracts, and a possibility that some of the parties would not suffer any loss and thus receive no compensation from the insurer. The examples shown in figures 6 through 9 are designed to show the effects of risk pooling. They indicate that in all the cases where business registrants are involved in the transactions, the basic cash flow tax model correctly allows the registrants to recover the taxes paid. On the other hand, consumers do not carry out any cash flow calculations and are not able to recover the taxes paid in conjunction with their insurance premiums. Therefore, where the insured persons are consumers, they neither claim a credit for tax paid on premiums, nor remit tax on claim receipts.

The insurer collects tax on premiums, and is allowed a credit for claims paid. Normally, a credit is allowed to a registrant for a cash outflow (i.e., a taxable purchase) only where it is supported by a tax invoice from the supplier, i.e., the cash outflow goes to a registered business customer. To get the appropriate result in the present case, the insurer has to be allowed a credit regardless of whether the claim is paid to a business or a consumer. The credit that can be claimed will normally be calculated at the rate of $t/(1+t)$, as the cash flow from the insurer to the insured will be on a tax inclusive basis.

An important point made in the examples was that there is no difference in the cases where the claim is in respect of a taxable supply or a non-taxable event. The insurer must be allowed a credit on the cash outflow for the claim. The purpose of this credit is to capture the value of insurance services properly, and must be available whether the claim relates to a taxable event or not. Similarly, although this was not shown, a registrant would be required to pay tax on the claim amount whatever the source of the claim. The purpose of this treatment of claim is to limit the amount of credit claimed to the amount which is collected at the insurer level as a tax on the insurance services.

Observations on the New Zealand General Insurance System

New Zealand has adopted a form of transactions-based cash flow tax for general insurance as part of its Goods and Services Tax. Life insurance and creditor protection policies are exempted, as are financial intermediation services rendered by financial institutions that come under the broadly-defined category of financial services.[8]

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[8] For an overview and discussion of the New Zealand system see Schenk, Alan [1994]. "Taxation of Financial Services Under a Value Added Tax: A Critique of the Treatment Abroad and the Proposals in the United States." 9, Tax Notes International 823. (September 12, 1994).

Insurance companies are taxed on premium receipts at the standard rate of tax. Taxable insurance coverage includes premiums for fire, personal accident (except life cover), casualty, travel insurance within New Zealand, surety policies, public liability, contractor's all risk insurance and marine cargo insurance within New Zealand.[9] Insurers can claim a credit with respect to loss payments at the standard rate of tax. However, New Zealand does not allow a credit in respect of claims that are to indemnify a loss of earnings, and no tax is charged on such claims in the hands of the insured. Business customers may recover VAT charged on general insurance premiums and are required to pay tax on loss claims for which the insurance company is allowed to claim a credit. It is useful to review this structure in light of the description of the basic cash flow system contained in this section.

The New Zealand system in most respects is modeled after a basic cash flow structure for insurance intermediation. A major exception is the failure to allow a credit to indemnify losses not related to taxable property. This aspect of the system is inappropriate in that it leads to tax being charged on more than the value of the insurance service. This was shown in the discussion of figure 9, which related to claims that are not in respect of liabilities for taxable supplies for non-registrants. If a deemed credit (deemed because there is no invoice showing tax paid) is not allowed in respect of such claims, the full premium becomes taxable, not just the insurance intermediation margin.

The denial of credit in respect of non-taxable loss indemnity (e.g. loss of wages) presumably reflects the view that the claims need to be grossed-up by the tax amount only where the insured has to incur the tax to replace the lost property. If the replaced property can be replaced without any tax, then there is no need to gross-up the claim for tax. In other words, if the insured does not remit tax on the claim receipt, the insurer should not get the credit.

This logic is unsatisfactory and loses sight of the real role of the crediting mechanism. A credit has to be allowed to the insurer simply because the value of the services rendered is the amount of the premiums less the claim. Failure to allow the claim to give rise to a credit leads to an overstatement of the tax base at the insurer level. The implications of this anomaly in the New Zealand structure depend upon the tax status of the insured party. As already noted, if the insured is a non-registrant, the denial of the credit for non-taxable property has the effect of charging tax on the full value of the premium, as opposed to just the margin. In the case of a registered person, the denial of the credit to the insurer is offset by the non-collection of tax from the insured. The insurance transaction in this case is a wash transaction and the system does not result in over-collection of tax.

Multi-period Contracts

Multi-period contracts are defined to include contracts of a duration that allow the insurer to earn investment income on premium receipts. As it is assumed in this part of the discussion that investment intermediation services are not being provided, this translates into an assumption that the rate of return being earned on the investment of the premiums and the rate of discount used in premium pricing is equal to the pure rate of interest (12% in our example). The example also assumes that the insurer's net service margin remains the same as in the single-period model.

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[9] See Muir [1992]. "The Treatment of Insurance Transactions Under the New Zealand GST." VAT Monitor. (December, 1992).

The operation of the cash flow system for multi-period contracts is similar to that for single-period contracts, except that the cash flows associated with the investment of premiums also give rise to tax computations. Extension of the basic cash flow system to multi-period contracts is nevertheless relatively straightforward. Allowing an insurer to claim a credit for the investment outflow, and requiring payment of tax on both principal and income inflow from the investment results in appropriate tax collections.

This result is described in figure 10. It is sufficient to use the single insurance contract model for this purpose, as it has already been shown that the extension to multiple customers does not change the essential results. Allowing the insurer to claim a credit for the investment outflow and, requiring payment of tax on both the principal and income flow from the investment results in appropriate tax collections. The insurer is taxed on the value of services provided as it receives the premiums and invests the proceeds in excess of its costs (value of the insurance services). For the government, net tax collections are negative in period 1, but the resulting interest cost to the government is offset by the additional tax collections in the second period.

Figure 10

Basic Cash flow System
Illustrative example: Multi-period model
Single insurance contracts without investment intermediation

	Pre-tax Cash Inflow/(Outflow)	Associated Tax Received/(Pay)	Total Cash Inflow/(Outflow)	Taxes Remitted/(Credited)
Insurer				
Period 1				
Premium Receipt	125.0	12.5	137.5	12.5
Investment Outflow	(100.0)	(0.0)	(100.0)	(10.0)
Net Tax				2.5
Period 2				
Investment Inflow	100.0	0.0	100.0	10.0
Interest Inflow	12.0	0.0	12.0	1.2
Claims Payment	(112.0)	(11.2)	(123.2)	(11.2)
Net Tax				0.0
Business Customer				
Period 1				
Premium Payment	(125.0)	(12.5)	(137.5)	(12.5)
Net Tax - Period 1				(12.5)
Period 2				
Claims Receipt	112.0	11.2	123.2	11.2
Replacement Property	(112.0)	(11.2)	(123.2)	(11.2)
Net Tax - Period 2				(0.0)
Goods Supplier				
Period 2				
Taxable Sale of Replacement	112.0	11.2	123.2	11.2
Net Tax				11.2
Government				
Period 1				
Net Tax Received				(10.0)
Period 2				
Interest Cost				(1.2)
Tax Collected				11.2
Total value of Tax Collected (Both Periods)				0.0

Issues and Concerns

The preceding examples and commentary described and analyzed the application of the basic cash flow model to insurance intermediation services, where there were no investment intermediation services provided. As a prelude to considering the use of the TCA system under such conditions, it is useful to note the main issues and concerns that can be identified.

The application of the tax to single-period contracts did not raise any particular issues. Indeed, for the single-period insurance contract without investment intermediation, the operation of the cash flow system is identical to that of the standard credit-invoice system.

However, application of the basic cash flow system to multi-period insurance would give rise to the same difficulties that were identified in the earlier reports in respect of the deposit and loan transactions by a bank [Ernst & Young, 1993: 78-82 and Ernst & Young, 1994: 38-43]. These relate to cash flow difficulties for registrants and transition difficulties in introducing the system or changing tax rates once it is in place.

The cash flow difficulties for registrants are associated with the pre-payment of tax on insurance premiums that relate to multiple periods. The tax is collected at the time the premium is paid, even where the premiums include an implicit savings element. However, the cash flow difficulties are not likely to be serious in the case of insurance without investment intermediation, as the savings and investment flows under such contracts are likely to be small. Certainly, it would seem to be less problematic than in the case of lending transactions where the tax must be paid on the full principal amount of the loan in the first period.

The transitions difficulties consist of two elements:

- Premiums paid prior to the commencement of the system are not taxable, but claims after the commencement of the system are eligible for input tax credits.

- Investments made prior to the commencement of the system are not eligible for input tax credits, but the subsequent cash inflows of both principal and interest are subject to tax.

These factors would lead to quite large distortions for both insurers and the insured. In theory, the transition difficulties related to premiums paid prior to the commencement of the tax could be handled in the same manner as prepayments for any other services, namely, the government could require tax to be paid on those premiums that relate to a period after the commencement of the tax. Transition difficulties related to claims paid after the commencement of the tax that relate to a period prior to the commencement of the tax could be handled simply by denying the input tax credits with respect to such claims. Similar issues would arise any time there was a tax rate change.

It is interesting to note that New Zealand did not have any special transition rules when the GST was applied to general insurance. No tax was charged on prepaid premiums at the start of the system, and claims were eligible for credit even where they related to prepaid untaxed premiums received prior to the start of the system. There are two possible reasons for the lack of any transition rules. First, general insurance contracts are generally of short duration, with limited examples of prepayment of premiums for extended periods. As a result, the magnitude of the distortions, which only arise for insurance in place, are likely to be small and relatively short-lived. The government may have considered it preferable to accept crediting in respect

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of claims on existing policies without requiring tax on past premiums as a means of smoothing acceptance of the tax. Second, insurance companies may have argued that the commencement of GST would increase their claim costs under existing as well as new contracts. Allowing them to claim an input tax credit for claims under existing contracts would be a method of compensating them for this increase in claim cost.

The second argument is only applicable in the case where a general VAT was introduced in conjunction with the application of the tax to insurance services (as it was in New Zealand). This would not be the case where the VAT already existed and the transition involved only an extension of the tax to insurance services, or the VAT replaced some other form of sales tax, such as a manufacturers' sales tax or a retail sales tax. The argument also does not apply where the claims are in respect of a non-taxable property loss, such as loss of human life, wages, or for pain and suffering. There is no reason for claim costs under these policy types to increase with introduction of a VAT.

The transition difficulties would be quite serious in the case of life insurance which involves a very substantial investment intermediation. The problems in this case would be similar to those identified in the other studies for deposit/loan transactions.

The TCA System

The Tax Calculation Account (TCA) system was developed in Ernst & Young [1994] as a means of dealing with the financing and transition difficulties that would arise under the basic cash flow system. The following sections consider how this model could be extended to insurance intermediation services to respond to these problems as they occur in respect of insurance intermediation and investment intermediation associated with insurance.

As has already been demonstrated the basic cash flow system works quite well for pure insurance situations for single periods. The basic cash flow system also gives conceptually correct results for multi-period contracts, but there is the potential for problems associated with financing and transition. The approach followed in the ensuing sections is to identify those parts of insurance cash flows which create problems of this type. The TCA system is then harnessed to provide the mechanism for dealing with these issues. Where the problems do not arise, the straightforward, basic cash flow system (i.e. credit-invoice system applied to financial transactions) continues to be utilized.

The analysis is extended sequentially through insurance contracts with the following attributes:

■ Multi-period contracts without either investment intermediation or a savings element.

■ Insurance with positive savings element, but no investment margin.

■ Insurance with an investment intermediation element.

Before commencing this analysis, it is useful to recall the essentials of the TCA system. It is described fully for a banking deposit/loan transaction in Ernst & Young [1994]. The TCA account, as introduced on pages 51 to 53 of the earlier report is:

"a tax suspense account created to obviate the payment of tax by taxpayers and of credits by government in the period cash inflows and outflows of a capital nature occur. Tax that would

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otherwise be payable/creditable is instead debited/credited to the TCA account and carried forward to the period where the capital transaction is reversed. The TCA mechanism thus allows deferral of tax on cash inflows and of tax credits for cash outflows. However, these deferrals are subject to interest charges at the government borrowing rate...

The basic features of the cash flow method with a TCA can be briefly summarized as follows:

- Tax payments on cash inflows related to a financial instrument (whether an asset or a liability) debited to the TCA.

- Input tax credits on cash outflows related to a financial instrument credited to the TCA.

- Net balance in the TCA subject to an indexing adjustment at the government borrowing rate. (A short-term government borrowing rate is a proxy for the pure rate of interest.)

- A balance in the TCA is payable (or refundable, if negative amount) periodically, after subtracting a notional amount equal to the tax rate times the value of the financial instrument at the end of the period."

The TCA carries out two essential functions. First, its use means that taxes and credits are not collected/paid on cash inflows/outflows of a capital nature. This responds to cashflow issues and also provides a system that can be harnessed to deal with the transitional issues. Second, once investment intermediation is allowed, it provides a means of identifying the margin of financial service on an account-by-account (or client-by-client) basis and providing for the correct determination of input tax credits. The TCA system for insurance plays both of these roles, as required.

A multi-period insurance contract was considered earlier in which there was no savings element, nor an investment intermediation margin. This is the first type of insurance product examined to see how the TCA concept can be applied.

It should be recalled that "no investment intermediation" in a multi-period contract means that the rate of return on premiums invested and the rate of discount used in premium pricing are both equal to the pure rate of interest. The "savings component" of insurance is viewed from the insured person's point of view, and refers to that portion of premiums plus the associated investment return which the insured is entitled to receive as a refund in the event there is no claim under the policy.

The savings component of a policy is, in effect, a deposit made by the insured with the insurance company, which will be returned at a later date with interest. For the VAT structure for financial intermediation services to function properly, savings made through an insurance vehicle must receive the same treatment as those through, for example, a bank.

The considerations that arise in respect of identifying the savings component of insurance policies were discussed in the background section at the start of this paper. One measure of the savings component of insurance would be the cash surrender value of the policy. The cash surrender value of a policy is the amount that the policy holder may be entitled to withdraw from the policy or to receive upon cancellation or surrender of the policy. Under permanent life insurance policies, the cash surrender value approximates closely the accumulating fund associated with the policy and is thus a reasonable measure of the savings amount. Under some

other types of policies, the cash surrender value is less than the savings component. Indeed, in a general insurance policy, the savings component would be zero, given that they do not have any cash surrender value.

Prepaid premiums for a general insurance policy that relate to periods beyond the current period could be viewed as a savings component, but only if the policy holder was entitled to a refund of the prepaid amount with interest.

Another approximate measure of the savings component would be the reserves set aside by the insurer in preparing its financial statements. The reserves (accumulating funds) related to a particular policy are available to pay a claim under the policy and thus reflect the savings element in the policy. It should be noted that insurers also set aside a so-called "unearned premium reserve" even in respect of policies without a savings component. Such reserves would not be treated as a savings component, because the policy holder is generally not entitled to receive these amounts as a refund (with interest) upon surrender of the policy.

Before setting out the proposed treatment of the savings and non-savings component of insurance premiums, it is useful to observe that the tax advantage or disadvantage from an over- or under-statement of the savings component is not significant under the TCA system of VAT. Therefore, it is possible to accept some degree of imprecision in identifying the savings component in the interest of compliance and administrative simplicity. The reason for this relative insensitivity to measurement of the savings component is discussed in detail later.

In order to extend this model to insurance, premiums received by the insurance company are considered to consist of two components:

- A savings component

- A non-savings component

The workings of the TCA system for insurance would then be based on the following steps:

- The savings component of policies would be identified and treated the same as a bank deposit.

- The tax would be calculated through the TCA mechanism for the savings component of insurance and for investments (by the insurer) of the savings component.

- The non-savings component of the premium would be treated like a fee or commission, and would be subject to tax as under the basic cashflow system, or the standard credit-invoice system.

In general, TCA calculations would be necessary only in respect of the savings component of insurance policies and for investments made under multi-period contracts. Single-period contracts would be subject to tax as under the basic cashflow system, given that they, by definition, do not entail any savings element. Premiums and claims under multi-period contracts without savings component would also be taxable under the basic cashflow concepts.

Insurance without Savings and Investment Intermediation

The first example using a TCA will be for the multi-period model without investment intermediation and without a savings component. Therefore, the insurer earns the pure rate of inter-

est on its investment of premiums and there is no amount of the premiums that can be recovered by the insured other than through a claim. The situation is, in fact, exactly that utilized in the multi-period example shown in figure 10.

The example using a TCA is shown in figure 11. The premiums and claims are current transactions and are taxable and creditable as required under the basic cashflow method. The purchase of the replacement good is taxed under the regular VAT. These transactions are treated the same as in the earlier example of this situation, where the basic cashflow model was used. (Figure 10 for the basic cashflow approach has been repeated for convenience after figure 11.) However, the cash flows associated with the investment by the insurance company in the period prior to the claim are of a capital nature, and, under the TCA system approach described in the previous section, they and the related interest are dealt with through the TCA.

The basic cashflow calculations yield net tax of zero for the government in both period 1 and period 2. In period 1, the business customer is able to claim an input tax credit that offsets the tax paid by the insurer. In period 2, the tax payable on the claim by the business customer is offset by the credit claimed by the insurer. The tax collected on the replacement goods by the goods supplier is matched by the credit available to the insured purchaser.

The TCA calculations are shown at the bottom of the table. The initial investment outflow of 100 leads to a credit in the TCA account of 10 (the tax rate times the cash outflow). There is then an indexing adjustment to this negative balance at the end of period 2. The repayment of the loan leads to a cash inflow of 100 and a debit in the TCA of 10. Receipt of loan interest of 12 leads to a debit entry of 1.2. With the loan and interest fully paid, the balance in the account is zero and thus there is no necessity for a notional adjustment through the closing balance. Because the insurer earns the pure rate of interest on its investment, there are no investment intermediation services provided and the net effect of the TCA calculation is zero.

Figure 11

TCA System
Illustrative example: Multi-period model
Single insurance contracts without investment intermediation

	Pre-tax Cash Inflow/(Outflow)	Associated Tax Received/(Pay)	Total Cash Inflow/(Outflow)	Taxes Remitted/ (Credited)
Insurer				
Period 1				
Premium Receipt	125.0	12.5	137.5	12.5
Net Tax				12.5
Period 2				
Claims Payment	(112.0)	(11.2)	(123.2)	(11.2)
TCA Balance				0.0
Net Tax				(11.2)
Business Customer				
Period 1				
Premium Payment	(125.0)	(12.5)	(137.5)	(12.5)
Net Tax – Period 1				(12.5)
Period 2				
Claims Receipt	112.0	11.2	123.2	11.2
Replacement Property	(112.0)	(11.2)	(123.2)	(11.2)
Net Tax – Period 2				(0.0)
Goods Supplier				
Period 2				
Taxable Sale of Replacement	112.0	11.2	123.2	11.2
Net Tax				11.2
Government				
Periods 1 and 2				
Net Tax Received				0.0

TCA for Investments			Amount	Tax Credit
Investment Outflow			(100.0)	(10.0)
Indexing Adjustment				(1.2)
Interest Receipt			12.0	1.2
Investment Inflow			100.0	10.0
Closing Balance				0.0

Figure 10

Basic Cashflow System
Illustrative example: Multi-period model
Single insurance contracts without investment intermediation

	Pre-tax Cash Inflow/(Outflow)	Associated Tax Received/(Pay)	Total Cash Inflow/(Outflow)	Taxes Remitted/ (Credited)
Insurer				
Period 1				
Premium Receipt	125.0	12.5	137.5	12.5
Investment Outflow	(100.0)	(0.0)	(100.0)	(10.0)
Net Tax				2.5
Period 2				
Investment Inflow	100.0	0.0	100.0	10.0
Interest Inflow	12.0	0.0	12.0	1.2
Claims Payment	(112.0)	(11.2)	(123.2)	(11.2)
Net Tax				0.0
Business Customer				
Period 1				
Premium Payment	(125.0)	(12.5)	(137.5)	(12.5)
Net Tax - Period 1				(12.5)
Period 2				
Claims Receipt	112.0	11.2	123.2	11.2
Replacement Property	(112.0)	(11.2)	(123.2)	(11.2)
Net Tax - Period 2				(0.0)
Goods Supplier				
Period 2				
Taxable Sale of Replacement	112.0	11.2	123.2	11.2
Net Tax				11.2
Government				
Period 1				
Net Tax Received				(10.0)
Period 2				
Interest Cost				(1.2)
Tax Collected				11.2
Total Value of Tax Collected (Both Periods)				0.0

The net effect of the calculations is that all taxes paid are claimable by the businesses involved and there is no net tax revenue to the government. This is the desired result.

Comparison of the basic cashflow model and TCA results

It is very instructive to compare the results obtained using the TCA approach (shown in figure 11) and the basic cashflow approach (shown in the repeated figure 10). Under the TCA system, the revenue collections are nil in both periods. The government defers the payment of the credit to the insurer in the first period in respect of investment outflows. This deferred credit, indexed by the pure time value of money, is then offset by the tax payable on the cash inflows from the investment. In contrast, under the basic cashflow system, the government revenue collections are (10) in the first period and 11.2 in the second period. The present discounted values of these two revenue streams are the same and overall revenue implications for the government are again nil.

The two systems thus give the same overall result, but the cash flows in each time period are quite different. The basic cashflow system leads to large credits in the first period, offset by equivalent taxes (on a present discounted value basis) in the second period. The cashflow implications of the basic cashflow system are thus more dramatic. This, of course, is the source of the concerns that were raised about the cashflow impact of the basic system and the problems it creates in transition.

Input tax credits for business customers

The input tax credits for the premiums are allowed to the insured business under the basic cashflow concepts. The business can claim the credit based on the invoice from the insurer showing the amount of tax payable.

If the insurer was earning a rate of return on its investments that were in excess of the pure rate of interest, it would be subject to tax on the additional margin. This tax would be in respect of services that the insurer is providing to the users of the investment funds. The availability of the input tax credit to a specific business customer for the tax paid would be based on the TCA calculations, and would depend on the nature of the investment.

A crucial distinction was drawn between "registered instruments" and bearer instruments in Ernst & Young [1994]. Registered instruments are those in which the associated transactions are essentially two-way. The initial cash flow to or from a person is reversed by a cash flow in the opposite direction to or from the same person. A loan by an insurer to a particular customer, for example, in the form of a mortgage, represents a registered transaction. The cash outflow associated with the granting of the mortgage will be reversed as the mortgage principal is repaid. Bearer transactions are all transactions other than a registered transaction. With bearer instruments, there is no expectation that there will be a reversal of the cash flows to the same party. For example, stocks or bonds purchased in secondary markets will not be resold to the same parties from whom they were purchased.

Where the investments by the insurer are in bearer instruments purchased in secondary markets, the tax calculated under the TCA would not be creditable to anyone. Where investments

are in registered instruments, the borrower would be able to claim a credit for the tax payable by the insurer on its investment margin. The credit would be based on the tax calculated within each TCA, and the insurer would issue an invoice to the business customer indicating the tax paid by the insurer in respect of the loan.

Insurance with Positive Savings Element, No Investment Margin

The application of the TCA system can now be extended to cover the case where there is a positive savings element in the policies. Depending upon the approach taken to identify the savings element, the policies thus contain a cash surrender value, or a reserve for return of savings is shown on the insurer's books. The assumption is maintained that there is no investment intermediation service provided by the insurer.

The previous assumptions about the insurance aspects of the example are kept the same, but there is now a savings element added to the transactions. The assumptions that are maintained the same are:

■ Pure rate of interest equals 12%.

■ Pure insurance or underwriting risk (calculated at a discount rate of 12%) equals 100.

■ Operating costs of risk pooling including insurer profit equals 25.

■ Pure insurance premiums exclusive of tax are 125 (equals 100 plus 25).

The additional assumptions and those that are changed by the inclusion of a savings element in the model are:

■ An additional savings component of 50, repayable with interest of 12%.

  The total premiums paid include an explicit savings component of 50. This 50 along with the associated interest becomes the cash surrender value of the policy. Since the interest rate is 12%, there is no intermediation service associated with the return earned by the insured party on the savings component of the premium.

■ Total insurance premium is 175.

  The total premium consists of the pure insurance premium of 125 and the savings component of 50.

■ Return on the prepayment of insurance payments (net of risk pooling costs) is 18 (i.e. 12% of 150).

  The fact that the insurer earns 12% on the prepaid premiums invested reflects the fact that there is no investment intermediation margin earned.

■ The payment of claims, including the endowment value of the policy, is 168.

  The value of the claims made at the end of the period is 168. This has a PDV of 150 considered from the perspective of the start of the contract.

The value of insurance services in the period is equal to the sum of the pure insurance risk, the savings component of premiums, the cost of risk pooling and the return on the investment of premium prepayments less the value of the claims. The total value of the services rendered is thus 25 (which equals 100 + 25 + 50 + 18 - 168). All of this represents insurance intermediation or risk pooling services. It does not include the pure risk element of the premiums, or the pure rate of interest. As has been discussed, the insurance intermediation services are the only elements of value added in the insurance activity and thus the only element which should be taxable under a general consumption tax such as a VAT.

Figure 12 provides an example of an insurance activity which contains an explicit savings element in the contracts. The savings component of the premium is returned with interest at the end of the policy period. The example continues to exclude the possibility of the insurer earning an investment intermediation margin either by paying the insured less than the pure rate of interest on their savings or by charging more than the pure rate of interest on loans.

Under the TCA mechanism, premiums and claims in respect of the risk element of the policy continue to be taxed under the basic cashflow system. The treatment of these transactions continues to be the same as in the previous example. However, there are now two TCA calculations necessary. One occurs for the investment transactions of the insurer, the other for the savings component deposited by the insured party.

Figure 12

TCA System
Illustrative example: Multi-period model
Single insurance contracts with savings element, but without investment intermediation

	Pre-tax Cash Inflow/(Outflow)	Associated Tax Received/(Pay)	Total Cash Inflow/(Outflow)	Taxes Remitted/ (Credited)
Insurer				
Period 1				
Premium Receipt	125.0	12.5	137.5	12.5
Net Tax				12.5
Period 2				
Claims Payment	(112.0)	(11.2)	(123.2)	(11.2)
TCA Balance				0.0
Net Tax				(11.2)
Business Customer				
Period 1				
Premium Payment	(125.0)	(12.5)	(137.5)	(12.5)
Net Tax – Period 1				(12.5)
Period 2				
Claims Receipt	112.0	11.2	123.2	11.2
Replacement Property	(112.0)	(11.2)	(123.2)	(11.2)
Net Tax – Period 2				(0.0)
Goods Supplier				
Period 2				
Taxable Sale of Replacement	112.0	11.2	123.2	11.2
Net Tax				11.2
Government				
Periods 1 and 2				
Net Tax Received				0.0

TCA for Investments			Amount	Tax Credit
Investment Outflow			(150.0)	(15.0)
Indexing Adjustment				(1.8)
Interest Receipt			18.0	1.8
Investment Inflow			150.0	15.0
Closing Balance				0.0
TCA for Savings				
Policy Endowment Value			50.0	5.0
Indexing Adjustment			6.0	0.6
Payment of Endowment Value			(56.0)	(5.6)
Closing Balance				0.0

The investment TCA calculations are identical to that described in the previous example, except that the premiums paid now also include the savings element of 50. There is no investment intermediation margin earned, because the insurer earns the pure rate of interest on its investment activities. There is thus no tax payable under the TCA calculation for the investment activity of the insurer. Similarly, there is no tax payable in respect of the TCA calculation for the savings component of the policy, because the pure rate of interest is paid on these savings.

The claims payment to policy holders is split into two parts. These are the return of the accumulated endowment value, and the balance of the claim paid. The insurer is allowed to claim a credit for the first element through the TCA mechanism. This is equivalent to the credit paid on the deposit withdrawal on the deposit side of banking transactions. The insurer earns a tax credit for the balance of the claim through the regular cashflow mechanism. As was indicated, premiums and claims (unrelated to the savings element of policies) continue to be taxed under the basic cashflow mechanism.

Policy dividends paid to policy holders are treated the same as claims. Policy dividends that are credited to the endowment account are similar to interest payments made by a bank to its depositors. The act of crediting the policy dividend to the endowment value does not affect tax payments by the insurer until the amount is actually withdrawn by the policy holder. Dividends credited to the policy holder account are similar to the payment of bank interest on a bank account which is immediately deposited back into the account. The TCA will have two matching debit and credit entries, but the balance will remain unaltered in the absence of an actual cash outflow.

Where the policy holder is a registrant, the insured is required to pay tax on only that portion of the claim receipt that is in excess of the endowment value of the policy. This is consistent with the fact that the policy holder was allowed to claim a credit only for that portion of the premium that exceeded the savings component.

Implicit savings elements of premiums

Where the savings element of the premiums is nil, there is no TCA created for the savings inflow from the insured, and, as a result, the tax would apply on the full premium amount. However, there may be an implicit savings element that is not reflected in a cash surrender value for the policy, or the calculation of the savings element on the company books. For example, general insurance companies earn returns on the investment of premiums prior to claims, and this return allows them to reduce the cost of insurance in the form of premiums charged. The lack of recognition of such an implicit savings element does not mean that the government is inappropriately charging tax on the savings element. Any tax collected on such savings inflows is appropriately offset through credits allowed for all claim outflows.

Since the TCA and basic cashflow systems are equivalent, any mismeasurement of the savings element does not result in under- or over-taxation. The only difference is in respect of the timing of the tax flows, and not in their present discounted value. If the savings element is recognized, thereby deferring the tax on part of the premium, there would be a corresponding denial of input tax credit to the insurer in respect of the claim.

INSURANCE WITH INVESTMENT INTERMEDIATION SERVICES

The TCA System

This section extends the example to include a situation in which investment intermediation services are being provided along with insurance intermediation services. The investment intermediation services may arise in respect of two sets of activities of the insurer. First, the insurer may provide investment intermediation services in respect of the savings component of insured parties' premium payments. Second, the insurer may provide investment intermediation services to borrowers of funds from the insurer or other users of the reserve funds held by the insurer. Conceptually, the issues that arise are identical to those that were discussed in detail for the deposit/loan activities of banks, with the savings component of premiums being equivalent to deposits and the lending activity of banks being equated to the insurer's investment of its reserves. The TCA system can be used in respect of these activities. The truncated TCA system, where the insurers carry out all the calculations, and provide invoices to insured parties and borrowers for the tax paid on the intermediation services rendered, can also be applied to insurance transactions.

The TCA system for insurers providing an investment intermediation service functions exactly as shown in the previous example (figure 12). However, that example assumed that the net investment margin was zero, and as a result, the TCA calculations did not yield a net tax liability. Where the investment intermediation services rendered by the insurer are positive, the TCA would yield a tax liability that would be in addition to the net tax on premium and claim cash inflows and outflows.

Figure 13 provides an illustration of the TCA calculations where it is assumed that the insurer earns a 15% return on investments, while pricing the premiums under an assumed 7% interest rate. The insurer thus earns an overall spread of 8% (15% less 7%). (All other assumptions are the same as in the previous example for an insurance contract with a savings element, but no investment intermediation. The assumptions about the investment margins are the same as those in the discussion of banking deposit/loan transactions in Ernst & Young [1993 and 1994].

The combined assumptions can be summarized as:
- Pure insurance or underwriting risk (PDV at a discount rate of 7%) equals 105.
- Operating costs of risk pooling including insurer profit equals 25.
- Pure rate of interest equals 12%.
- Pure insurance premium equals 130 (i.e. 105 + 25).
- An additional savings component of 50, repayable with interest at 7%.
- Total insurance premium of 180 (i.e. pure insurance plus savings component).
- Return on prepayment of insurance premiums (net of risk pooling costs) equals 22.5 (15% of 150).
- Payment of claims, including the endowment value of policies, equals 165.5

The total value of services rendered by the insurer is now equal to the sum of the pure insurance risk, the savings component of premiums, the cost of risk pooling, and the return on the investment of premium prepayments less the value of the claims. The value of services is thus 37 (which equals 105 + 50 + 25 + 22.5 - 165.5). This represents insurance intermediation or risk pooling services of 25 and investment margin of 12 (8% of 150).

Figure 13

TCA System
Illustrative example: Insurance with investment intermediation

	Pre-tax Cash Inflow/(Outflow)	Associated Tax Received/(Pay)	Total Cash Inflow/(Outflow)	Taxes Remitted/ (Credited)
Insurer				
Period 1				
Premium Receipt	130.0	13	143.0	13.0
net of endowment value				
Net Tax - Period 1				13.0
Period 2				
Claims Payment	(112.0)	(11.2)	(123.2)	(11.2)
net of endowment value				
TCA Balance				0.7
Net Tax - Period 2				(10.5)
Business Customer				
Period 1				
Premium Payment	(130.0)	(13.0)	(143.0)	(13.0)
Net Tax - Period 1				(13.0)
Period 2				
Claims Receipt	112.0	11.2	123.2	11.2
TCA Credit				(0.25)
Replacement Property	(112.0)	(11.2)	(123.2)	(11.2)
Net Tax - Period 2				(0.25)
Goods Supplier				
Period 2				
Taxable Sale				
of Replacement	112.0	11.2	123.2	11.2
Net Tax				11.2
Government				
Period 1 Net Tax				0.0
Period 2 Net Tax				0.45

			Amount	Tax Credit
TCA for Investments				
Investment Outflow			(150.0)	(15.0)
Indexing Adjustment				(1.8)
Interest Receipt			22.5	2.25
Investment Inflow			150.0	15.0
Closing Balance				0.45
TCA for Savings				
Policy Endowment Value			50.0	5.0
Indexing Adjustment			6.0	0.6
Payment of Endowment Value			(53.5)	(5.35)
Closing Balance				0.25

In the example, the total value of intermediation services is 37. Of these, the value of services rendered by the business customer is 32.5, consisting of the insurance intermediation service of 25, plus an additional premium of 5, because of the use of a 7% (as opposed to 12%) discount rate in the pricing of premiums, plus an investment intermediation service of 2.5 (5% of 50). The residual value of 4.5 represents investment intermediation services to persons who make use of the investment funds of the insurer.

The business customer is allowed to claim an input tax credit in two parts. For the first two components (25 + 5), which relate to the pure insurance risk and the premium built into the pricing of the policy at a 7% discount rate, the credit is allowed through the basic cash flow mechanism. These components are included in the non-saving portion of the premium for which the business customer can claim a credit. The credit for the remaining component is available on the basis of the TCA tax invoice issued by the insurer.

If the investment by the insurer was in a registered (non-bearer) instrument such as a loan, the tax on the remaining 4.5 service value may also be creditable to the recipient of the service, if the recipient acquired the service for use in a taxable activity. In the example shown in figure 13, the government is represented as receiving 0.45 in net tax collections (i.e. 10% of 4.5). The example thus relates to either the situation where the insurer has made the investment in a bearer instrument, or where the loan is not in respect of a taxable activity. Mortgage loans by the insurer to non-registrants would be an example of the latter situation.

Truncated Cashflow Model with TCA

In the paper Ernst & Young [1994], a system of cashflow tax referred to as the truncated cashflow system with TCA was described. The key feature of the truncated system would be that, as part of its own calculation of tax, the financial institution would also determine the tax in respect of the value of financial services provided to its commercial customers. It would issue a tax invoice specifying the amount of the tax and the customer would be able to claim an input tax credit if the services were used in a commercial activity. This approach was developed as a means of overcoming the complexity associated with non-financial registrants carrying out their own cashflow calculations in respect of their financial transactions.

The truncated system would also be applicable in the case of the savings element of premiums paid to insurers and to registered loans or other borrowings from insurers. Insurers would do the calculations to determine the tax payable on their financial services related to these activities and furnish business customers with invoices showing the tax paid as calculated under the TCA method. However, the basic cashflow method would continue to be used for the risk insurance component of premiums and for claims.

Negative Balance in a TCA

As discussed in Ernst & Young [1994: 60-61], a negative balance in the TCA implies that the financial intermediary has become a net recipient of investment intermediation services. It would thus become eligible to receive a refund of tax in respect of either the deposit or lending account represented by the TCA being considered. However, in this case, the financial institution should not be able to reduce its tax, unless the customer was charging the tax

on the supply. To get the proper result under the truncated system, the balance in a TCA is constrained to be non-negative, that is a negative balance is ignored.

This constraint would also apply to negative TCA balances of insurers. It should be noted that it is quite appropriate to allow an insurer to claim a credit for claims payments in excess of premium receipts from any policy holder. Given the risk pooling nature of insurance, one would expect claims to exceed premiums for certain policy holders. However, the pure insurance elements of a policy do not flow through a TCA, which consists of only savings and investment elements of insurance cash flows. A TCA will have a negative balance only because the indexing rate is more than the investment earned by the insurer, or less than the investment income credited to policy holders. It would not be appropriate to allow a reduction in tax for the insurer in such case, as it would not be expected that there would be corresponding tax collected from the other party in the transaction.

Transition Rules

Transition rules for the adoption of a cashflow system for insurance services need to be considered in respect of both the pure insurance and the investment intermediation aspects of insurance activities.

For policies without a savings component, transition options identical to those under the cashflow system can be identified. The three basic options are:

■ Option A: No tax on premiums received prior to the commencement of the tax, and no credit to the insurer for claims paid under such prepaid insurance claims.

This approach leaves insurance contracted before the implementation completely outside the scope of the tax and crediting mechanisms. It could lead to some adverse selection effects associated with the announcement of the tax, in that non-registrants would opt to pay premiums in advance of the tax, while business customers would tend to delay premium payments to await the crediting opportunities.

■ Option B: The insurer would be required to charge tax on prepaid insurance premiums for the periods after the commencement of the tax. All claims would then be eligible for credit, as long as they related to risks that occurred after the tax commencement date.

This option would provide no incentive to prepay or delay premiums, as the premium payments would be allocated over the contract period. The exemption system would apply to premiums and claims pre-implementation and the cashflow VAT would apply to premiums and claims post-implementation.

■ Option C: (New Zealand system) No tax on prepaid insurance, but full credits for all claims after the commencement of the system.

This system would also be subject to adverse selection effects, but might be justifiable on simplicity grounds if the extent of prepayments is relatively limited.

Investment intermediation services of insurers would be subject to transition adjustments under the TCA system. This would consist of establishing TCAs for the savings/endowment values in existing policies and for investments in place at the commencement of the system. The TCAs for the savings/endowment values of policies will have an opening debit entry equal

to the accumulated endowment value of the policies. The TCAs for investment outflows prior to the commencement of the tax will have an opening credit entry equal to the fair market value of the investments at the implementation date.

Options B or C for general insurance are most compatible with the TCA adjustment for insurance with a savings component. All claims for risks after the tax commencement date remain eligible for credit by the insurer, regardless of whether the claim payment is a return of the endowment value or a compensation for the insured loss. On the other hand, option A for general insurance denies credit for part of the claims, in effect, continuing the exemption system.

Issues and Concerns

The major issues and concerns about the application of a cashflow VAT to the insurance and investment intermediation services of insurers will relate to the respective complexity concerns of insurers and policy holders.

Complexity for Insurers

All financial institutions may find the requirement to maintain the TCAs for accounts to be a source of complexity. Insurers face the additional complexity of dividing premiums and claims into savings and pure insurance components. However, it should be noted that this is already being done for income tax purposes. Insurers are allowed to claim a reserve deduction in respect of the savings component of premium receipts. When a claim is paid, a part of it serves to reduce the reserve deductions, and the balance is allowed as an ordinary expense deduction in computing business profits.

While the reserve deduction may not correspond exactly to the endowment value of the policy, the income tax reserve amount may still be used as a convenient measure of the savings/endowment value of policies. Under the income tax system, a reserve deduction results in a deferral of income tax liability of the insurer, who has an incentive to maximize the reserve deductions. Under the TCA system of VAT, the benefit of deferral is offset by indexing the TCA balances by the pure interest rate.

Because a VAT does not apply to the pure time value of money, the deferral of tax is not a benefit in the first place, as long as cash inflows and outflows are treated in a symmetric and consistent manner. For financial intermediaries, cash inflows of a capital nature (liabilities) are matched by cash outflows of a capital nature (assets). The deferral of tax on cash inflows should thus be matched by deferral of credits on cash outflows. In the absence of explicit matching of cash inflows and outflows, the TCA system negates the advantage/disadvantage of timing differences through the mechanism of indexing of outstanding TCA balances.

The income tax system allows reserves in respect of unearned premiums for general insurance without a savings component. These calculations are done on a pool basis, without allocation to individual policies. Since these amounts do not represent a savings/endowment value of policies, they do not require explicit recognition under the TCA system. All

premiums and claims under general insurance without a savings element are to be taxed under the basic cashflow system. TCAs are to be set up only for those policies that have an explicit endowment element, even though the TCA calculations could be based on income tax reserve amounts for such policies.

Complexity for Policy Holders

For consumers and other policy holders that are not registered businesses for VAT purposes, there are no tax computations for purposes of the VAT. All additional calculations are at the insurer level. The insurer will face tax on the premiums received and receive a credit in respect of claims paid. The net tax in respect of such policies will thus be restricted to the tax on the value of the insurance intermediation services associated with the policy or the investment intermediation services supplied on the savings element of such policies.

Registered businesses are allowed to claim a credit for the premiums paid, and are required to remit tax on the claim receipts. The tax and credit calculations are relatively straightforward in the case of general insurance with no savings element. They are directly comparable to the calculations associated with VAT on goods or non-financial services.

For policies with a savings element, premiums and claims would need to be split into savings and non-savings components. This would need to be done by insurers, and thus would not involve that much in additional complexity for the policy holder. However, given that savings components are generally confined to life insurance policies acquired by consumers, most business registrants would be unaffected by this element of complexity in any event.

PART 3

ADDITIONAL DESIGN ISSUES

A number of additional design issues would arise in establishing a cashflow VAT for insurance sector financial services that are related to specific activities or characteristics of the insurance industry. These relate to reinsurance, zero-rated export services, imported services, transfer and sale of damaged property, subrogation, stock versus mutual companies and insurance premium taxes.

REINSURANCE

In cases where insurance companies have underwritten insurance with a significant payout potential, they may seek to reduce their level of potential liability by seeking reinsurance on the policy. Reinsurance companies assume a share of the original insurer's risk in return for a share of the premium. Reinsurance is essentially insurance for insurers.

For the cashflow tax, reinsurance can be treated identically to insurance. The purchase of reinsurance is treated as a sale of insurance to the original insurer by another insurer. In turn, the reinsurer would be charged tax on the premium receipts, and the original insurer would be allowed to claim a credit for the reinsurance premium.

Reinsurance contracts may involve insurers from other jurisdictions. This is, in general, treated the same as other transactions with foreigners under a cashflow VAT. The purchase of reinsurance from a foreign (non-resident) reinsurer is treated the same as the purchase of other services from a foreign supplier. There is no credit allowed for the purchase of the service where the supplier is not obligated to charge tax. Therefore, premium payments to the foreign reinsurer are not eligible for an input tax credit, and any claim receipts received are not subject to tax.

The sale of reinsurance to a foreigner is treated the same as the sale of insurance to a foreign customer. It would be zero-rated, if the place of supply is outside the country. If the reinsurance supply is held to be zero-rated, premium receipts from the non-resident customer would not be subject to tax, and the claim payments to the non-resident customer would not be eligible for the credit.

ZERO-RATED EXPORT SERVICES

Two major options exist as a guide to defining zero-rated insurance supplies.

Option A:

■ Option A: Insurance services would be treated the same as any other service. Under the Sixth Directive of the EU, the place of supply is determined by reference to the business status of the customer. In the case of a business customer, the place of supply is defined to be the place of residence of the consumer. For consumers and other non-business customers, the place of supply is defined to be the place of residence of the supplier.

- Option B: The place of supply would be defined by reference to the residence of the customer and to the location of risks. The primary criteria for defining an exported insurance service would be the residence of the recipient. Therefore, supplies to residents are treated as domestic supplies regardless of where the risks are located. However, in respect of insurance, supplies of insurance are only zero-rated if the insurance relates to risks that are located primarily outside of the country. This is the approach used in Canada.

IMPORTED SERVICES

Under a cashflow VAT, imported insurance services could be treated the same as imports of other taxable services. Under that type of regime, VAT registered businesses will have no bias to import services from abroad, because the treatment of domestic and imported services is the same. Domestic services received are taxable, but the tax is offset through the availability of input tax credits. Imported services are not taxable, but neither are they eligible for an input tax credit. In general, the new system would be more neutral than the current system in this regard. The current implicit tax on insurance services through the taxation of inputs can vary significantly from one country to another. The system under discussion would ensure a zero effective rate of tax on business insurance on a uniform basis in different jurisdictions.

Consumers and other unregistered persons would have a bias for tax-exempt importation of insurance services. Under the Sixth Directive the place of supply rules for services, no such bias exists in the case of imports from other EU members, because insurance services to consumers are taxable in the country of export. However, a bias does exist where the insurer is based in a country outside the EU. In these cases, a self-supply rule is needed for service imports. In some cases, countries prohibit the sale of insurance without the insurer being licensed in the country. Under this requirement, licensed insurers could be deemed to be carrying on business in the country and be required to apply for VAT registration.

TRANSFER AND SALE OF DAMAGED PROPERTY

Insurance damage claims may be settled in two general ways:

- Option A: Insurer pays a claim settlement equal to the damage amount (which is approximated by either the repair cost, or the replacement cost of the property less its salvage value)

- Option B: Insurer takes possession of the damaged property, and pays a claim settlement equal to its replacement cost.

It is obviously desirable to have rules in place that lead to uniform tax treatment under both options. The Canadian Goods and Services Tax systems has a set of rules designed to achieve this objective. The transfer of property from the owner to the insurer is deemed to be for nil consideration. Neutrality is then achieved by requiring the insurer to charge tax on salvage sales, but allowing a notional input tax credit to the insurer in the case of salvage acquired from non-registered persons. To claim the credit, the insurer must provide satisfactory evidence that the owner of the property did not claim any credit in respect of the original purchase of the property. The notional credit is equal to the tax charged on the sale.

The net result of these adjustments is that no tax is remitted on resales of properties acquired from households and other exempt persons. On the other hand, sales of properties acquired from other persons attract tax on the full resale value. In effect, under the Canadian rules, salvage sales by an insurer are effectively treated as if they were a sale of second-hand goods, with the dealer's margin deemed to be zero.

Taxation of insurance services would simplify the rules for a neutral treatment of the transfer of the property and the subsequent resale. No notional input tax credit would be required. Instead, a credit would be available for the full cash settlement of the claim. The insurer would still be required to charge tax on the salvage value, in a manner similar to the tax charged on any other supply of goods or services.

Illustrative example of transfer and sale of damaged property

The assumptions for the example are:

- Salvage value of property: 200

- Replacement cost of property: 1,000

- Insurer has the option of:

  - paying a cash claim of 1,000, and taking possession of the salvage, or

  - paying a net claim of 800 and letting the insured keep the salvage

- Tax rate: 10%

Under option A, the insurer remits tax on the salvage sale of 200, but gets a credit for the claim payment of 1,000. The net tax credit would be 10% of 800.

Under option B, the insurer claims a credit equal to 10% of 800, and the consumer is allowed to make a salvage sale for 200 with no further tax.

In both cases, the net claim cost to the insurer is 800, and that is all that should be eligible for a credit to the insurer. There should be no additional tax on the salvage value of a consumer property, because it already represents a tax-paid value. Where the property is a business property, the salvage sale would attract tax under the normal rules, regardless of whether the sale was made by the insurer or the insured.

SUBROGATION

Subrogation is defined as the transfer by the insured to the insurer of the right to receive compensation from the third party causing the damage. For example, a person damages the structure of a house. The homeowner is compensated for the loss by the insurer, and transfers to the insurer his/her right to sue the person that caused the damage. The insurer may subsequently be able to recover damage costs from the person responsible.

Transfers of rights to the insurer are treated the same as the transfers of damaged property. They are a supply of an intangible property from the insured to the insurer for nil consideration. Any recoveries by the insurer are then considered to be a consideration for a taxable-supply.

Under this approach, the insurer is required to remit tax on the recovery amounts. This is similar to the recoveries from salvage sales. The recoveries are thus effectively treated as a reduction in the net claim cost. The net credit of the insurer is equal to the tax rate times the gross claims less recoveries from the person causing the damage. Where the person liable for the damage is a VAT registrant, the damage payment would be considered as a purchase of a taxable service (e.g. a repair service) from the insurer, and the person would be eligible to claim an input tax credit in respect of the payment. In other words, once insurance becomes taxable, all insurance cash flows, including premiums, claims and subrogation recoveries, get treated as consideration for taxable supplies.

STOCK VERSUS MUTUAL COMPANIES

Insurance companies may be either stock companies owned by their shareholders or mutual companies whose policyholders have ownership rights in the companies. The distinction between these two ownership structures raises an issue as to the tax base that should apply under the cashflow VAT.

Under the cashflow or TCA systems, cash flows to and from shareholders are ignored.[10] The cash inflows from the issuing of equity shares of the company itself (as opposed to sales of shares held in its portfolio of equities), are ignored for cashflow tax purposes and are thus not taxable. Similarly, dividend payments to shareholders are not included in the tax base. This treatment is necessary to arrive at the correct tax base in respect of the financial services provided, and parallels the treatment of wage and salary payments to employees.

In the case of stock companies, share contributions, and dividends to shareholders are readily identifiable to permit this treatment. However, mutual insurance companies do not have shareholders. It has been argued that they are capitalized from premiums received from insurance policy holders, and that a part or all of the profit earned by mutual companies is returned to policy holders in the form of policy dividends. In other words, policy holders of mutual companies are its customers as well as its owners. If this argument is accepted, a part of the premiums received from the policy holders of a mutual company should be excluded from the tax base as a share capital contribution. Similarly, input tax credits should be denied for that part of the policy dividends that represents a distribution of profits.

The validity of this argument has been challenged. It implies that premiums charged and dividends paid by a mutual company are higher than those of a stock company. There is no conclusive evidence of this. Mutual companies have argued that market competition requires their premiums and dividends to be similar to those for stock companies.

This issue has generally arisen in the context of the income tax. Few countries have attempted to address it in that context. The benefit of full dividend deduction is seen to be partially offset by the full taxation of premium inflows. Pending further evidence about the nature and magnitude of the bias, it may not be advisable to address it under a VAT.

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[10] See the discussion Ernst & Young [1994: 12-14].

INSURANCE PREMIUM TAXES

Many countries impose insurance premiums taxes (IPT). These taxes can be quite burdensome, in that they are applied to the full value of the insurance premiums, as if this represented consumption expenditure. Of course, the actual consumption expenditure is only the value of insurance and investment intermediation services provided by the insurer. As a result, unless the premium tax is set at a very low rate, it will impact very heavily relative to the actual financial services being consumed. Premium taxes are also non-neutral, in that the ratio of the gross premium to the financial service will vary among types of coverage and policy holders.

If a TCA system were adopted, continuation of the premium taxes would be contrary to the principle of economic neutrality. Perhaps the only justification for their continuation would be the revenue loss that the governments would otherwise suffer. While it is beyond the scope of this report to comment on them, it is an issue that is important in assessing the overall economic and fiscal impact of the new system of applying VAT to financial services.

PART 4

APPLICATION OF TAX TO BULLION

INTRODUCTION

Gold performs a dual role in the economy in that it is traded both as a consumer/industrial commodity, and also for investment purposes. In its investment uses, it competes with other financial instruments, and the services provided by the dealers and other businesses trading in it are financial in nature. Under the EU VAT system and other VAT systems which generally exempt or zero-rate financial services, it has thus been considered necessary to also exempt or zero-rate investment transactions in gold to avoid market disruption. This has led to special rules designed to segment transactions in gold as a financial instrument and transactions in gold as a consumer/industrial good. Such segmentation allows transactions in gold as a financial instrument to be exempted or zero-rated. If financial services were to become taxable under a variant of the cash-flow system, the need for such rules may be lessened or eliminated, as all financial services would be taxable. The purpose of this section of the report is to explore the appropriate treatment of gold under the cash-flow system, and to examine the need for the availability of special rules under such a system.

Under the VAT Sixth Directive, all transactions relating to gold are, in principle, taxable, with the exception of certain transactions involving central banks. However, as noted, special rules are designed to exempt or zero-rate gold transactions of a financial nature. Article 28(3)(b) provides that during a transitional period, Member States may continue to exempt transactions other than gold for industrial use. This derogation is only permitted for Member States which already granted such an exemption at the date of adoption of the Sixth Directive. This has led to the situation in which some Member States tax gold, while others exempt it. In Canada, supplies of gold by a person other than a refiner are exempt with no right of input tax deduction/credit.

There are examples of zero-rating of gold in addition to transactions involving export of gold. In the United Kingdom, a range of contracts undertaken under certain specified circumstances in the Terminal Market (commodities market) are zero-rated. An important consideration in this approach is the difficulty in determining place of supply. In Canada, domestic (as well as export) sales of precious metals by a refiner are zero-rated.

Gold has been used in various serious frauds against the VAT. In general, the frauds involved the smuggling or importing of gold with no VAT having been paid upon purchase, and the sale of the gold with VAT with the tax not being remitted to the treasury. As a result, some Member States have been authorized under Article 27 to take measures combating this fraud. In the U.K., a system of compulsory special accounting and payment system has been adopted for gold transactions, which involves the tax being remitted by the buyer and not the vendor, when the transactions are between registered dealers.

The existence of these special rules and treatments has created some problems. As the proposal for a special scheme for gold presented by the Commission observed:

"A coherent proposal on gold is made all the more necessary by the existing differences between Member States which result not only from the said transitional derogation for socalled investment gold but also from the wide variety of tax schemes applicable to gold in general, for example under the simplification measures referred to in Article 27."[11]

The discussion in this paper focuses on issues related to the measurement of the tax base. While issues related to the place and time of supply are also important, they are not considered in detail here because they are not unique to gold supplies. They should be handled in the broader context of similar rules for other goods and services in general, and for financial services in particular. The paper focuses on issues related to gold, but the discussion is equally pertinent to other precious metals such as silver and platinum which perform the same dual functions as investment goods and industrial/consumer goods. There is no separate discussion of other precious metals in the paper for reasons of brevity.

The discussion that follows reflects, in part, the issues and concepts contained in the Commission document [October 28, 1992]. That paper sets out proposed insertions in the Sixth Directive designed to reduce competitive distortions and fraud related to gold. In general, the proposals in the Commission document are designed to segregate "investment gold" where no consumption related to the gold itself occurs in conjunction with transactions, and "gold other than investment gold" where consumption does occur. In the case of investment gold, the only consumption related to transactions is of financial services. The proposals are thus designed to allow exemption/zero-rating for financial services linked to investment gold in line with the treatment of other financial services, while taxing the non-investment transactions as normal supplies of goods.

This basic distinction is also conceptually relevant for the discussion of the treatment of gold transactions in a cash-flow system. However, the objective is now to identify and measure the value of financial services related to transactions in gold (of an investment type) so that tax can be applied in an appropriate fashion to the financial services involved. The cash-flow approach is the mechanism used to measure the financial services associated with investment gold transactions. The standard system is applied to other transactions that involve supplies of gold as an industrial input or a consumption good.

UNIQUE FEATURES OF GOLD TRANSACTIONS

The special rules applied to transactions in gold under the current systems (where financial services are exempted) and the structure envisaged under a cash-flow variant of VAT are linked to certain unique characteristics of gold transactions. It is useful to outline these in general terms as background to a detailed discussion of the current and proposed systems.

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[11] Commission of the European Communities [October 28, 1992]. *Proposal for a Council Directive Supplementing the Common System of Value Added Tax and Amending Directive 77/388/ - Special Scheme for Gold.* COM (2) 441. (Brussels) 1.

Gold is purchased and held in various forms by two sets of persons. First, there are the registered businesses that purchase the metal for use in business activities. Financial institutions, including commodity traders, hold gold as an input to their business activities. They may hold it as a stock for market making activities, as backing for various gold-based financial products or as inventory for sale. Other registered businesses such as jewelers and dentists hold the metal as inputs into their business activities. Second, consumers and other persons may purchase the metal either as a consumer good in such form as jewelry, or as an investment, either in pure metal form or coins.

If financial services were included in the VAT, a system with the following characteristics would meet the conceptual objectives of a value-added tax structure. All physical transactions in the metal, that is those transactions where the metal physically passes into the possession of a new person, would be subject to tax. As well as trading in the existing stock of the metal, new supplies as the result of production and refining, or import would also bear tax. Registered businesses would have the right of deduction/credit where the purchases are related to their taxable business activities. Other persons or registered businesses purchasing the gold for purposes not related to their taxable commercial activities (e.g. for investment purposes) would not be eligible for deduction/crediting of the tax paid. As a result of this, there would be a tax-free stock in the hands of businesses using gold in their taxable commercial activities, and a tax inclusive stock in the hands of consumers and other persons holding gold for consumption or investment reasons. As noted, financial institutions would use their stock of gold as inventory for sale or as backing for various financial instruments related to gold. Gold held on a tax inclusive basis would presumably trade on this basis where registered traders are not involved. If there was a purchase of gold by a registered person from a unregistered one, there would need to be a mechanism for the registered person to recover the tax included in the purchase price.[12]

Any supply of financial services related to gold should be subject to tax and creditable by registrants where the service relate to their commercial activities. Similar comments, of course, would apply to any supply of service related to supplies of gold for consumer/industrial purposes.

The existing structure under VAT systems is more complex. Financial services are, in general, exempt or zero-rated, and rules have been available in many VAT systems to try to provide parallel treatment to financial services related to gold transactions. Moreover, the supply of financial services involved in many transactions related to gold reflect the extensive use of gold, itself, as a financial instrument. Historically, gold has been used as money, and there is a continuing use of gold as legal tender and as a store of value. As a result, a significantly large volume of domestic and international transactions in gold relate to use of the metal for monetary or investment purposes. Other transactions, related to financial instruments linked in some way to gold also reflect the investment use of gold. As there is arguably no consumption of gold in such cases, there should be no taxation of the total cash payments. As with other transactions in financial instruments (such as bank deposits), the cash payments may

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[12] This issue is discussed later and can be accomplished by allowing the purchaser to claim a deemed credit equal to $(t/1+t)$, where t is the statutory VAT rate.

reflect transfer of funds, payments for the time value of money, pure risk premiums and payments for financial services associated with the transaction. Only the final element should be taxable under a VAT which taxes financial services. VAT systems to varying degrees have tried to accommodate these considerations by various treatment of physical gold transactions (except for consumer/industrial use) and of transactions in gold related financial instruments. The Sixth Directive allowed existing exemptions (except for industrial/consumer) use to be continued. As a result, there are significant variations in the treatment of such transactions in Member Countries. Similar factors have also led to varying systems in countries using VAT systems outside the EC.

While the transactions in gold in many cases are essentially financial in nature, gold is fundamentally different than most other financial instruments in one respect, namely it does have intrinsic value as a commodity. This value is generally reflected in its market price. Unlike other financial instruments, the creation of gold represents value-added, which is equal to its market price. The full market value of other financial instruments does not represent value-added. The cost of printing and creation of other instruments is only a fraction of their market value. The remainder of the price of these other instruments reflects other attributes of a financial nature such as claims on future resources, the time value of money and risk premia, none of which represent value-added.

There are three major categories of transactions of gold which are useful to distinguish for purposes of this paper. These are:

■ Transactions in gold objects

■ Actual (physical) transactions in gold

■ Financial transactions

Transactions in gold objects are those involving gold jewelry, other objects containing gold, or gold metal below prescribed levels of purity or in a form generally not recognized as pure gold. Examples of the latter include various forms of gold scrap, gold residues from chemical or industrial sources, alluvial gold (i.e. gold in powder or sand form usually recovered from rivers) and lemel (i.e. actual pieces or scraps of gold which are larger than dust, but not large enough to be made into another item).

Actual (physical) transactions in gold involve those where there is physical delivery of gold. In this discussion, physical delivery is defined broadly to include segregated deposits or warehousing of gold on behalf of the buyer with a third party or with the seller. This category excludes the transactions included in the first category, transactions in gold objects. These actual (physical) transactions can be sub-divided into two further sub-categories which are relevant in discussion of gold and VAT. One relates to the use of gold as a consumer/industrial commodity and the other to the use for financial/investment purposes. These are respectively:

> **Consumer or industrial users**

■Supply of pure gold for jewelry, dentistry and industrial alloys

■Numismatic coins

> **Investment purchases**

- By monetary authorities for use as
  - monetary reserves of Central Banks
  - supplies of gold coins at face value as money
- By individuals and business firms for use as
  - investment holdings
- By financial intermediaries for use as
  - holdings of gold for resale or as market makers

Financial transactions in gold are referred to as "investment gold" transactions in Commission of the European Communities [28 October, 1992. 4-5]. There are three forms of transactions in gold that are financial or investment in nature, and which do not involve physical delivery of gold. First, in book gold supplies, the buyers acquire title to an unidentified/fungible amount of gold held as part of a larger stock of gold held by the supplier. The ownership in such cases is represented by gold certificates or accounts. If the ownership transfer is in respect to an identified stock, it would be tantamount to physical delivery. This possibility was referred to under actual (physical) transactions, where it was noted that gold held as segregated deposits or warehoused with third parties could be considered to be physically delivered in a broad sense.

Second, futures contracts represent an obligation to buy or sell a given quantity of gold at a specified date in the future. Such contracts are usually closed out without any physical delivery of gold. Such sales in the future relate to "unascertained goods", in that the specific lot of gold to be delivered is not ascertained at the time the futures contract is struck. Third, options contracts refer to rights to buy or sell a given quantity of gold at a set price on a given date. Options may or may not be tradable.

In all of the transactions defined above, it is possible for brokers or agents to provide services in relationship to the transactions. In some cases, the services may relate to pure agency functions of bringing buyers and sellers together, and operating as sophisticated stand-ins for the principals in the transaction, thereby reducing transaction costs. However, in other cases, the services provided may be of a financial type involving the making of markets, pooling of risk, clearing services and provision of liquidity.

CURRENT VAT TREATMENT

The current VAT treatment of gold in the EU Member States and other countries with the tax reflects the attempts made to minimize market disruptions in the different categories of transactions described in the previous section, given the existing treatment of financial services, As noted, there is considerable variation of treatment, even within the EU. This, of course, was one of the reasons that the Commission made its proposals regarding gold [28 October, 1992, 1], There is a concern that the current variation among member countries could be a source of competitive distortions. This section considers the VAT treatment of gold under the current rules.

Gold objects are subject to the standard provisions applicable to other goods. Sales are generally subject to tax and taxpayers registered for VAT are eligible for deduction/credit of the taxes paid where the taxes relate to their business activities.

There is significant variability in the treatment of *actual (physical) transactions* in gold. This variability is evident both within the EU and in the other countries applying VAT. The earlier discussion of this category of gold transactions divided the transactions according to the type of customer and the end use of the gold in question.[13] The categories identified were consumer/industrial users, and investment purchases by monetary authorities, individuals and businesses, and financial intermediaries. Numismatic coins were also identified as a separate category of gold. There is fairly uniform treatment of supplies of gold for consumer/industrial purposes and to monetary authorities. However, there is variability in the treatment of the remaining categories of numismatic coins, investment purchases by individuals and business firms, and financial intermediaries. Nevertheless, there are some common elements in tax treatment.

In general, consumer/industrial use of gold is taxable. In the EU, this is expressly set out in the terms of the Sixth Directive.

Special relieving provisions exist for monetary gold supplied to central banks. The latter exemption is available in the EU countries under Articles 14(1)(j) and 15(11) of the Sixth Directive. This relieving provisions apply to both supplies within the country and imports. The special treatment of this type of transaction relates to the fact that such gold is considered to form part of the central banks' financial capital (under Directive 88/361/EEC on capital movements). As an example of this in Member State law, the United Kingdom zero-rates such transactions under Schedule 5, Group 12 of the Value Added Tax Act 1983. The relevant items are:

1. The supply, by a Central Bank to another Central Bank or a member of the London Gold Market, of gold in the United Kingdom.

2. The supply, by a member of the London Gold Market to a Central Bank, of gold held in the United Kingdom.

Gold coins that are typically used for collection and study (numismatic coins) are accorded varying treatment. Many of the EU Member Countries including the United Kingdom and France treat such coins as taxable. However, the United Kingdom does provide that special treatment may be available for coins of over 100 years old, or ones defined as collectors' pieces of historical significance as part of the special scheme for antiques and collectors pieces. Before April 1, 1982, the United Kingdom exempted gold coins that were legal tender in the country of origin. Some countries exempt or zero-rate all such coins. In Canada, all coins of pure gold are exempt in recognition that gold in this form may not represent a consumption commodity.

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[13] It can be noted that one of the rationales underlying the proposal for a special scheme for gold by the Commission [28 October, 1992.] was that the distinction between gold for industrial use or other than industrial use contained in Annex F of the Sixth Directive should be abandoned, because, "it is considered that the VAT arrangements should not be based on the use made of the metal (and hence on the buyer's intention)".

In the case of investment purchase of gold by individuals and businesses, and financial intermediaries where there is physical delivery of the gold, there is considerable variation in treatment among countries. In the EU, this relates to the ability to maintain existing exemptions relating to gold other than for industrial use for a transitional period under Article 28(3)(b) and point 26 of Annex F of the Sixth Directive. As an example, the United Kingdom zero-rates certain transactions on the London Gold Market under the Value Added Tax (Terminal Markets) Order 1993 and its amendments. In Canada, there is broader category of special treatment in that the first sale of gold (and other precious) metals by a refiner on the domestic market (as well as exports) is zero-rated. Other sales of pure gold are exempted with no right to claim input tax credits.

Financial transactions in gold which are referred to as "investment gold" transactions in the Commission's documents are generally exempted/zero-rated on the basis that these are, in fact, financial transactions and the only supply is of financial services. Since financial services are exempt/zero-rated under current VAT systems, this treatment should also be accorded to gold transactions of this type.

In the case of *brokers' and agency services,* services related to consumer/industrial use are subject to the standard provisions, while services related to financial transactions are generally treated as financial services.

TREATMENT UNDER THE CASH-FLOW SYSTEM

A brief overview of the broad framework of applying a cash-flow VAT to gold transactions can be provided before a more detailed discussion of application to the different types of transactions identified in previous sections. The outline of the structure is as follows:

■ All transactions involving physical delivery of gold (including transfer of ownership of an identified quantity of gold) to be taxable under the standard provisions

■ All financial transactions in gold (not involving any physical delivery of gold) to be treated the same as transactions in other financial instruments

- Under the truncated TCA system, only financial institutions liable to pay tax on supplies of financial instruments

- The tax base calculated through the TCA mechanism

- For any given financial instrument, the tax base will be the margin earned by the financial institution in excess of the pure rate of interest

■ All brokers' and agency services subject to tax under the standard provisions

For gold objects, there would be no change from the current system. In general, supplies would be taxable under the standard rules and deduction/credit in respect of taxes paid would be available to registered persons for their business activities. However, any special provisions to check fraud could be continued. Therefore, the compulsory special accounting and payment system for gold transactions adopted by the United Kingdom, in which the responsibility for paying VAT is transferred to the buyer could be continued. Such systems were contemplated by the Commission in its proposal for a transitional scheme for gold [28 October, 1992.

Annex, page 7]. They would continue to be appropriate where necessary under a cash-flow system, because their existence is not in any way linked to the tax treatment of financial services.

As noted in the overview of the system, all *transactions involving actual (physical) delivery* would be taxable in a system of taxing financial services under a cash-flow approach. Indeed, conceptually all such transactions should be taxable even under the current system. However, special relieving provisions have been considered necessary to allow the system to work in as non-distortionary a fashion as possible in the presence of the exemption for financial services.

The need for such relieving provisions relates to the exemption of financial services. There are a variety of gold transactions where physical delivery is of little or no importance of where there is uncertainty about whether delivery will occur. For example, futures contracts do not generally involve a delivery of gold. However, at the time the contract is bought/sold, it is not known whether the contract will lead to an eventual delivery of the gold. As a result, it may have been considered necessary to exempt all such contracts regardless of whether they would entail delivery. This avoids any bias for contracts not requiring delivery.

Other situations in which relieving provisions exist despite physical delivery of gold relate to financial institutions (including registered dealers in gold acting as principals in transactions). Financial institutions having a mixture of exempt financial transactions and taxable gold transactions would have difficulties in allocating inputs between the two types of supplies. Special treatment of the otherwise taxable gold transactions can thus be rationalized as a simplifying mechanism. An argument or rationale for zero-rating of certain physical transactions of gold of financial institutions relates to market making activities. Such firms acquiring gold as market makers may not be eligible for input tax credits for their gold purchases, if their market making activities are exempt as financial services. The resulting increase in the cost of holding gold would have been a significant deterrent to their market making activities.

With the taxation of financial services under the cash-flow system, extension of the tax to all actual (physical) gold transactions would be facilitated. The examples referred to above as leading to relieving provisions would no longer be relevant under such a system. Financial institutions would not have to apportion input tax credits, as all of their financial activities would be taxable, and all taxes paid would be available for deduction/credit. Also, with market making activities becoming taxable, financial institutions would be allowed to claim input tax credits for tax payable on their gold purchases.[14]

Non-taxable or unregistered persons taking delivery of gold intended as an investment would be concerned about the application of tax to gold purchases. They would argue that gold held for investment purposes should not bear tax because competing investments in financial instruments do not bear tax, except on the financial services provided as part of the investment. However, it can also be argued that the gold price does represent value-added and should be

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[14] The treatment of purchases that do not involve payment of tax, that is the purchase of gold from non-taxable (unregistered) persons is discussed at the end of this section.

taxable in the same manner as any other good or service acquired in the process of investment. Investors buying other goods or property (e.g. diamonds, land, and durable consumer goods) as an investment incur the VAT costs. An exemption for gold, while applying the tax to all other investment inputs, would be non-neutral and distortionary. There is thus no compelling argument as to why gold should receive special treatment.

It should be noted that a special rule might still be necessary to allow central banks to claim an input tax credit for their purchases of monetary gold. Since circulation of money is not considered to be a taxable activity, central banks would not be able to claim an input tax credit for monetary gold under the standard rules. If it is considered necessary to allow them to purchase gold tax free as part of their financial capital, then a mechanism to give them access to input tax credits on taxable purchases would be necessary.

On the other hand, it might be queried as to whether gold purchases by a central bank should be treated the same as other inputs related to its activities of circulation of money. If there is no credit for the buildings, monetary paper, metal for coins, and office supplies, why should there be a credit for gold?

Transactions in financial instruments related to gold would be treated the same as other financial instruments. As the detailed rules for the application of the cash-flow system to options, futures contracts, and to other financial derivatives are yet to be explored, it is not feasible to discuss the treatment of gold instruments in detail. However, certain general observations and comments can be made.

Assuming the truncated cash-flow system is in place, only financial institutions would be liable to pay tax on the supply of financial instruments. The tax calculation would be done on the basis of the TCA mechanism. In principle, the financial institutions would be subject to tax on this basis for both the profit margin in excess of the pure rate of interest earned on any financial instruments related to gold acquired for resale and also any spread earned on the provision of services akin to deposits or loans involving gold through gold certificates and the like. Since the financial instruments held could take the form of futures, options or derivatives, the exact calculations would depend upon the rules put in place for these instruments.

Instruments that may require physical delivery, even though they are settled in cash, could be treated as financial instruments. They would be taxable only on the margin earned by the financial institution. However, the tax would apply to the value of the gold delivered, as and when a delivery does take place. There would need to be special consideration of this situation in the rules. It can be noted that the Commission proposal for an exemption system for investment gold with the right of deduction contains a proposal in respect of this situation. The proposed special scheme for gold suggested it be dealt with through the tax applying upon physical delivery based upon the current market price of gold [28 October, 1992. 6]. However, under the exemption with deduction system, limitations would also be required on the right of deduction at the time of supply to prevent abuse of the right of deduction.

Place of supply would be an important issue in respect of such financial instruments. Because of the difficulties in determining the place of supply of international gold transactions, the United Kingdom zero-rates all financial transactions in gold in the U.K. Terminal Markets.

However, the place of supply issues are not unique to gold-related instruments, and the rules developed for other financial instruments could also be extended to gold.

Once financial services become taxable, all brokers' and agency services could be taxable under the standard provisions. There would be no special rules required for such services related to gold supplies, whether they be actual (physical) or financial supplies.

There are two other issues that would also need to be considered in respect of operation of the system. These are the treatment of the resale of gold by non-taxable (unregistered) persons to taxable persons, and the possible cash-flow difficulties arising when applying the tax to gold purchases by taxable persons.

Conceptually, a resale of gold by non-taxable (unregistered) persons to taxable persons should be treated in the same fashion as any other resale of used goods. Such treatment is designed to prevent double taxation of used goods when they pass from an unregistered person to a registered one and then to a further unregistered one. This is particularly important in the case of gold due to the value and volume of such transactions. To deal with this issue, the taxable person acquiring such goods should be eligible to claim a notional input tax credit equal to the tax rate on a tax inclusive base [i.e. $t/(1+t)$, where t is the statutory rate of tax] times the purchase price of the goods. With this adjustment, the tax can be applied to the full subsequent resale price of the goods without double taxation arising. The net tax collected is only in respect of the margin earned by the taxable person.

In the case of purchases of gold by taxable/registered persons, there may be a concern that taxation of gold may lead to cash-flow difficulties. Such persons are then faced with financing the cost of the tax until such time as a credit/deduction can be claimed. While such cash-flow difficulties are not unique to gold, they may be exacerbated by the value of transactions in gold. If this was considered to be necessary, there could be special relieving provisions if necessary. There would be no fundamental system problem related to such provisions. An example of a provision with this effect is a system where a registered buyer is responsible for the payment of the tax. The tax payable can be immediately offset by the deduction/credit.

SUMMARY AND CONCLUSION

The extension of VAT to financial services via a cash-flow system would facilitate the extension of VAT to all gold transactions, whether physical or financial. The current system varies considerably from country to country, and has led to a variety of distortions in markets and has also been vulnerable to fraud.

Under the approach discussed in this paper, the tax would be applied in respect of all transactions that entail physical delivery of gold, while taxable/registered persons would be entitled to full input tax credit for gold purchases. This would mean that there was no longer any need for distinctions between gold objects and gold. Because of the introduction of a system of input tax credits, the need for special relieving provisions for Terminal Markets would be obviated.

Financial transactions that do not entail physical delivery would be treated the same as other financial instruments/derivatives. The detailed rules for such transactions are yet to be explored, but the main issue is likely to be place of supply.

The payment of tax on stocks of gold purchased by financial institutions would raise cash-flow issues due to the timing of the tax payments and the claiming of credits. Transactions in gold have also been the source of fraud which has led to such systems as a reverse charge structure (tax payable by purchaser) being adopted in some countries. Special provisions to deal with the cash-flow difficulties and fraudulent practices could be maintained under the proposed system, if it was considered necessary, as they do not fundamentally alter the application of the tax on the desired base.