



Tax Administration
Research Centre



National Audit Office

Technical paper

prepared for the
National Audit Office

The Definition, Measurement, and Evaluation of Tax Expenditures and Tax Reliefs

JUNE 2014



Tax Administration
Research Centre



National Audit Office

The Definition, Measurement, and Evaluation of Tax Expenditures and Tax Reliefs

The National Audit Office commissioned the Tax Administration Research Centre to develop guidance on how to define and categorise tax expenditures (being tax reliefs with similar aims to spending programmes), and provide advice on approaches to estimate the cost of tax expenditures and how to evaluate them. Therefore while the report was commissioned for the National Audit Office, the views contained in this report do not necessarily reflect the NAO's opinion.

Prepared by: Nigar Hashimzade, Chris Heady, Gareth Myles, Lynne Oats
and Kimberley Scharf, with assistance from Hana Yousefi

PART 1

Defining and Categorising Reliefs

Summary

Tax reliefs and tax expenditures are two closely related and overlapping concepts. The distinction between tax reliefs and tax expenditures is a subtle one and can only be clear after careful description of the two concepts. The first part of the report discusses how to define and categorise these concepts. Section 1 focuses upon the issue of how to define a tax expenditure and, therefore, how to distinguish a tax expenditure from a tax relief. This analysis is necessary since there is no consistency of definition in existing work or in practice. After a review of existing definitions a new definition of tax expenditures is proposed with the intention that it is useful for guiding categorisation. Section 2 reviews a number of alternative categorisations of tax expenditures and tax reliefs. Recommendations are made on the use of categorisations for the purposes of review and evaluation. The final section discusses characteristics that identify tax expenditures for review and proposes triggers for review.

Section 1

Defining Tax Reliefs and Tax Expenditures

1.1 Introduction

1.1.1 The first section of the report provides an operational definition of tax reliefs and tax expenditures. The requirements of a definition in general are discussed and then a review is undertaken of alternative definitions of tax expenditures. The important features of these definitions are analyzed. This analysis is used to inform the construction of a preferred definition.

1.2 Definitions

1.2.1 The purpose of a definition is to allow the object being defined to be identified. That is, a definition makes it possible to distinguish objects that meet the definition from objects that do not. In formal terms, a definition should provide a partition of the set of all objects into the set of those satisfying the definition, and the set which do not. This is the equivalent to the observation of Copi and Cohen (1990) “The principal use of a definition, in reasoning, is the elimination of ambiguity.” This is illustrated schematically in Figure 1.



Figure 1: Partitioning the set of objects

1.2.2 The benefit of a definition is that it either removes any scope for disagreement (if it is a perfect definition that is unanimously agreed and accepted) or isolates the point of departure for alternative perspectives. In either case it advances debate and focuses analysis.

1.2.3 The Office for Tax Simplification (2013) observes that the Shorter Oxford English Dictionary (1986) describes a definition as “the action of determining a question at issue” or “the declaration of the signification of a word or a phrase”. The question at issue is whether an object meets the definition, while signification relates to the features or characteristics of the object.

1.2.4 At a secondary level a definition might also explain the meaning of a word or a phrase in the sense that someone new to the term will be given insight into what it is trying to convey. This need not be the case, and we need to distinguish carefully between a definition and an explanation. For example, a formally correct definition in mathematics or logic may use notation or concepts that make it unintelligible to the non-specialist. A re-expression of the definition in terms that are readily understood – and possibly incomplete as a consequence – is then an explanation rather than part of the definition. Although it is preferable that a definition is as widely intelligible as possible there can be a conflict with accuracy.

1.2.5 Rules for constructing definitions and descriptions of alternative forms of definition have been stated. The key class is that of a “Theoretical Definition” that “attempts to formulate a theoretically adequate or scientifically useful description of the objects to which the term applies” (Copi and Cohen, 1990, p. 137). The nature of such a definition is that proposing the definition is tantamount to accepting the theory. As a consequence, as theoretical thinking changes and evolves so must the definition.

1.2.6 The role of a definition is to separate the set of objects. In classical set theory the partition is clear-cut so that an object must either belong to a set or not belong to a set. This leaves no space for uncertainty: after applying the definition there can be no objects that are not classified. In practice, a definition can involve multiple characteristics of objects so may be incomplete or vague. In such a case the definition may leave some objects unclassified as either satisfying or not satisfying the definition. Figure 2 illustrates.

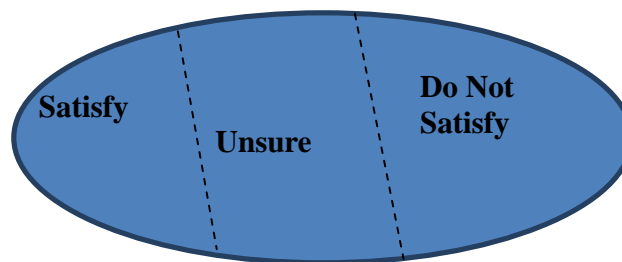


Figure 2: Incompleteness

1.2.7 The ideas of fuzzy set theory (Zimmermann, 2001) can be applied to understand such cases. This theory is based on the idea that it is possible to associate with each object the degree to which it satisfies a definition. Some definitely do, others definitely do not, while the remainder have associated with them a degree to which they may satisfy.

1.2.8 These points are made to illustrate what should be achieved and what might be achievable. A perfect definition would operate like classical set theory with a complete absence of ambiguity. In contrast, a practical definition is more likely to resemble fuzzy set theory with a region of ambiguity. In the context of tax expenditures the definition will also be theoretical in the sense described above. As understanding evolves about tax expenditures, and tax theory generally, the definition will also need to evolve.

1.2.9 When drafting a definition there are several characteristics of a good definition that are generally agreed upon. These characteristics are summarized by Copi and Cohen (1990, p. 151-155) as:

- A definition should state the essential attributes of the species;
- A definition should not be circular;
- A definition must be neither too broad nor too narrow;
- A definition must not be expressed in ambiguous, obscure, or figurative language;
- A definition should not be negative where it can be affirmative.

These characteristics will frame our construction of a definition.

1.3 Tax expenditures and tax reliefs

1.3.1 A definition can only be formulated once the concept of the object has been agreed. A possible procedure for constructing a definition is to start from the general concept of the object, then refine down by adding further properties that the object must possess (which includes possessing the property of not having a characteristic). This motivates as a first step a review of the general concept of a tax relief and a tax expenditure.

1.3.2 A tax relief is an article of tax law that provides a reduction in tax payment for some taxpayers or for some actions. The details of a tax relief are specified in the tax law, and there are many different forms that tax reliefs can take. Three examples that illustrate the degree of diversity are the relief from personal income taxation for business mileage, the exemption of transit passengers from Air Passenger Duty, and the relief from Corporation Tax of expenditure incurred in making a sea wall or other embankment. Section 2 provides alternative categorisations that can be used to place these reliefs into context. The point at issue here is the distinction between the concept of a tax relief and concept of a tax expenditure. It will become clear once a tax expenditure has been defined that not all tax reliefs are tax expenditures. In particular, those reliefs that can be classed as “structural” (see 1.7) are not tax expenditures.

1.3.3 Burton and Sadiq (2013) inspire reflection on what might be the general concept of a tax expenditure by posing three questions:

- Is a tax expenditure a provision which provides preferential tax treatment to one group of taxpayers over another group of taxpayers?
- Is a tax expenditure a provision contained in the tax legislation that is directly substitutable for a spending programme?

- Is a tax expenditure a much wider concept that captures all departures from a normative or benchmark tax system regardless of whether they can be substitutes for a direct spending programme or provide benefits to a specific class of taxpayer?

1.3.4 It is clear that a tax expenditure cannot be expected to simultaneously satisfy all three of the criteria identified by these questions since the third question explicitly describes some set of objects that is broader than the first two. In practice the definitions we review below contain a mix of these three elements.

1.3.5 Several observations can be made about these criteria. First, whether a tax treatment is preferential requires determination of the base treatment over which preferential is to be judged. By this it is meant that preferential treatment of group A over group B can be equally interpreted as detrimental treatment of group B relative to group A. Whether it is preferential to A or detrimental to B can only be set relative to a chosen reference point. Second, it is necessary to consider both intention and consequence. A provision may be available to all (e.g. tax relief on pension contributions) but benefit only those who choose to contribute to a pension fund. The fact that it benefits some taxpayers relative to others is a consequence but not an intention. Third, any tax policy is substitutable for a spending programme once we allow for negative tax expenditures. We explore this point more fully below. Finally, the wider concept in the third question leaves open the issue of what is the normative or benchmark system. It therefore requires a further layer of analysis to define the relevant system.

1.3.6 An alternative approach to definition is to list the items that are tax expenditures. The OECD (2010a) list is given in Table 1.

Item	Explanation
Exemptions	Amounts excluded from the tax base
Allowances	Amounts deducted from the benchmark to arrive at the tax base
Credits	Amounts deducted from tax liability
Rate relief	A reduced rate of tax applied to a class of taxpayer or taxable transactions
Tax deferral	A relief that takes the form of a delay in paying tax

Table 1: OECD list of tax expenditures

1.3.7 Not every item that falls under one of the above is necessarily a tax expenditure. For example, the personal allowance for income tax is *not* seen in the UK as a tax expenditure. An acceptable operational definition needs to be finer than given by this listing.

1.4 Normative and benchmark tax systems

1.4.1 Many of the definitions of tax expenditures are focussed around deviations from either a normative or a benchmark tax system. The definitions are often incomplete in the statement of what defines the normative or benchmark tax systems. The comments that follow address the possibilities of building a definition on a normative basis and note some of the difficulties that subsequently arise.

1.4.2 In past discussions of a normative tax system it appears two distinct entities have become conflated. First, there is the idea of the normative *tax base*. It is frequently argued that tax expenditures should be based on the deviation from a comprehensive income tax built upon the Haig-Simon definition of income. Why this might be the normatively correct base is not usually made clear. Second, there is the idea of the normative *tax structure*. By structure we mean the set of tax rates that are applied to the chosen base. In what follows we use the terminology of *tax system* to mean the combination of a tax base and a structure of rates. The distinction between whether it is the base or the structure, or even the system, that has a normative justification, has not been sufficiently clear in many previous definitions.

1.4.3 Normative discussions of the tax base in the 1950s (such as Kaldor, 1955) focussed upon moral principles. The standard argument was that using an income base taxed what people put *into* the economy whereas using an expenditure base taxed what was taken *out*. Income and consumption taxes were seen as having different moral foundations and, on this basis, a moral argument was frequently advanced in favour of an expenditure base.

1.4.4 The choice between an income base and an expenditure base was a major issue in the earlier tax literature (see Batina and Ihuri, 2000). The perspective has now changed significantly. The recent Mirrlees Review (Mirrlees et al., 2011) emphasized that the real economic difference between an expenditure base and an income base was the treatment of interest income. A tax on labour income with an exemption for interest income was shown to have the same economic implications as an expenditure tax. This was one of a series of equivalence results that showed the conditions under which taxes on different bases have the same economic effect. The general observation is that normative arguments about the tax base which focus on morality do not have a credible basis in tax theory. Questions concerning the choice of the normative base are more about objectives (e.g. should the tax be neutral with respect to intertemporal choices?) than about moral basis.

1.4.5 This does not make the contrast between an expenditure base and an income base irrelevant. If tax expenditures are measured relative to a benchmark tax system then the choice has significant implications. As Burman and Phaup (2011) note, if the benchmark is an income tax then tax incentives to encourage saving, such as deductibility of pension contributions, are tax expenditures. However, the US Office of Management and Budget (2002, p. 96) argued that "...[T]he growing presence of tax deferred savings vehicles in the tax code suggests that these may today be part of the 'normal' income tax circa 2002." Conversely, if a consumption tax is taken as the benchmark, then the taxation of interest is a

negative tax expenditure (a tax above the benchmark) and the deductibility of pension contributions is not a tax expenditure.

1.4.6 Normative arguments can be made about the tax structure. The marginal rate of tax applied to each part of the base determines the progressivity (or regressivity) of the system. The chosen structure should be based on a normative evaluation of social equity, where equity can be either horizontal (across the base) or vertical (along the base).

1.4.7 For example, with an income tax the marginal rate at different income levels reflects the assessment of vertical equity, and the marginal rate of tax on different sources of income or on taxpayers with different characteristics reflects views on horizontal equity. The personal income tax in the UK is differentiated both horizontally and vertically. The same observations apply to consumption taxes. The UK value-added tax (VAT) retains a constant rate as consumption rises (the vertical dimension) but is differentiated across parts of the base (the horizontal dimension).

1.4.8 The next question to address is what is understood by a normative tax structure. The use of 'normative' implies that the choice of structure has at source some form of value judgement or a claim to optimality. What is implied beyond this is not entirely clear in discussions of tax expenditures. To a tax economist a normative structure is the one that is *optimal* given the objective of the government and the constraints under which the government operates.

1.4.9 From this perspective there are two senses of optimality. The first sense is that the tax system is *efficient* so that it attains the desired revenue with the least possible deadweight loss. The second sense is that the normative tax structure balances *efficiency and equity* to maximise the general level of welfare. In practice, it is possible for different tax instruments to have different motivations. The progressive nature of the personal income tax is usually defended on an ability-to-pay basis, which is a form of equity argument. In contrast, the corporate tax system is more likely to be designed on the basis of efficient revenue-raising since arguments about vertical equity for corporations are absent.

1.4.10 A more refined version of this argument could be made to insist that the use of the description 'normative' must imply that equity is a consideration. The basis of this argument is the observation that efficiency is a positive concept and not a normative one. If this argument is accepted, any reference to a normative tax structure in connection with the definition of tax expenditures must refer to a system designed with a concept of equity in mind.

1.4.11 These points allow us to make the important observation that the concept of a *normative system* is inconsistent with the use of tax expenditures. We have argued that the defining feature of a normative system is that it is the ideal system given the objectives of the government. Proceeding on this basis, any beneficial tax expenditures will be part of the normative system, otherwise it could not be ideal. Hence, if tax expenditures are not part of

the normative system they must be detrimental to the government objective. If this is the case, it begs the question of why detrimental tax expenditures would be implemented. This inconsistency persuades us that measuring tax expenditures relative to a normative system is not the correct approach.

1.4.12 The use of a benchmark tax system avoids the issues of a normative system outlined above. Instead, the benchmark idea is to employ the more practical approach of specifying the comparison system in detail but without assigning to it any claim to optimality. Applications of the concept vary in the benchmark used but, typically, it is the common core of the system that is universal once tax expenditures have been taken away. This is not adequate from the concept of a definition because there is a residual element of circularity.

1.4.13 In addition, we wish to observe that the choice of benchmark is not neutral relative to what defines a tax expenditure. For example, an extreme benchmark is a flat rate system with the same rate of tax on all trades. With this as the benchmark it follows that all deviations from the flat rate must be tax expenditures. This would include *positive* tax expenditures (reduced rates) and *negative* tax expenditures (higher rates). For example, if the benchmark flat rate of tax were taken equal to the basic rate the UK personal allowance would be a positive tax expenditure and the higher rate a negative tax expenditure. Alternatively, if the benchmark flat tax were the higher rate, then all lower rates would be (positive) tax expenditures.

1.4.14 HMRC focus their analysis of tax expenditures on a division between structural reliefs and tax expenditures. Although this distinction is not common in other countries, we find this a helpful way to proceed, and it forms part of our recommended approach to constructing a definition.

1.5 Definitions in practice

1.5.1 A large number of alternative definitions have been provided by government departments and international organisations. A number of these are gathered in Appendix A. This section will describe the key features of the major definitions.

1.5.2 Surrey (1973) is usually cited as the first instance of the use of the concept of a tax expenditure. The work of Surrey and McDaniel (1985) updated the earlier publication and defined the concept of a tax expenditure as follows:

“The tax expenditure concept posits that an income tax is composed of two distinct elements. The first element consists of structural provisions necessary to implement a normal income tax, such as the definition of net income, the specification of accounting rules, the determination of the entities subject to tax, the determination of the rate schedule and exemption levels, and the application of the tax to international transactions. The second

element consists of the special preferences found in every income tax. These provisions, often called tax incentives or tax subsidies, are departures from the normal tax structure and are designed to favour a particular industry, activity, or class of persons. They take many forms, such as permanent exclusions from income, deductions, deferrals of tax liabilities, credits against tax, or special rates. Whatever their form, these departures from the normative tax structure represent government spending for favoured activities or groups, effected through the tax system rather than through direct grants, loans, or other forms of government assistance.” (p . 3)

1.5.3 It can be seen that this definition begins by invoking structural provisions (including exemptions) but concludes by invoking departures from a normative structure. We view this as unsuccessfully combining two separate conceptions of a tax expenditure.

1.5.4 More recent definitions differ across countries and institutions. A sample of some of the definitions with our observations is provided in Appendix. The key features are as follows:

- Australia uses the actual system as the benchmark and explicitly recognises negative tax expenditures (rates above the benchmark).
- Canada provides a detailed statement of the benchmark system which, in brief, is “the relevant rate applied to a broad base”.
- The United States use deviations from the normal structure which was defined in detail by the Committee of Taxation.
- The IMF classes tax expenditures as revenues foregone as a result of selective provisions.
- The OECD classes a tax expenditure as a provision in tax law that leads to a departure from the standard rate.
- The World Bank defines a tax expenditure as a reduction outside the tax norm or benchmark.

1.5.5 The variety of these definitions limits exact direct international comparison of tax expenditures. An illustration of international comparison are Tables II.29 and II.30 in OECD (2010), showing tax expenditures as a proportion of GDP and of the total tax and non-tax receipts by the central government, respectively, for a selection of seven OECD countries, including the United Kingdom, by various categories. Notably, the tables are accompanied by a footnote stating that “Classification of tax expenditures by purpose and by type is to some degree arbitrary.”

1.5.6. Burton and Stewart (2011) provide case studies and comparison of tax expenditure reporting in four non-OECD countries, Brazil, Chile, India, and South Africa. Burton and Stewart (2011) note, further, that “The definition of tax expenditure and calculation of tax revenues varies significantly across countries, so that it is difficult to make direct comparisons. The size of aggregate tax expenditures as a proportion of tax collected will differ depending on a country’s definition of its tax expenditure benchmark and its overall tax

system. However, the examples show how significant tax expenditures can be, relative to the size of a country's economy (its GDP), its government spending, and overall tax revenues. For example, ... in Korea, tax expenditures across all taxes comprise more than 14 percent of all central government tax and non-tax revenue. In the UK and Canada, tax expenditures are respectively 46% and 64% of total tax and non-tax revenues of the central government.

1.5.7. It is clear that any such comparisons should be treated with caution but they may be useful in indicating whether tax expenditures are of a similar order of magnitude. While there is scope for the construction of a standard international definition, the realities of political process may prevent this.

1.6 New Zealand proposal

1.6.1 The recent proposal from the New Zealand Treasury (Fookes, 2009) provides detailed arguments in favour of a definition of tax expenditures based on characteristics. The objective of the paper is to provide an implementable definition of tax expenditures. Since we do not reach the same conclusion about how to define a tax expenditure it is informative to review the paper in detail.

1.6.2 The paper is motivated by the perceived need to introduce a descriptive report on tax expenditures as the method of "improving public information" and to provide "additional transparency". It is observed that this should aim at "report[ing] the cost of spending, while avoid[ing] any policy judgements," and be separate from the "[d]ebate about effectiveness". Hence, the paper argues there is a need for a direct definition rather than a comparison with a benchmark. The definition should be "easy to use; able to be understood; avoid[ing] pejorative or normative statements." Presumably, this means it should be "easy to use" by the government or the tax authority and "able to be understood" by the public. Avoiding normative statements rules out the use of normative benchmark tax system which, it is claimed, is also a complex theoretical construct, and "difficult to communicate".

1.6.3 The paper proposes that two reports are made. First, a "fiscal dataset" published on an annual basis which reports on a small number of identified tax expenditures. Second, a structural tax policy report published at less frequent intervals and reporting on tax expenditures "that are significant, cross cutting, and are of a more structural nature". The first report is intended to be based on a direct and implementable definition of a tax expenditure and seeks "to measure [tax expenditure] against the tax that would otherwise be collected".

1.6.4 The paper notes that a tax expenditure can be defined either directly, through the characteristics that describe a tax expenditure, or indirectly, as a deviation from a benchmark. The paper argues in favour of a direct definition and proposes the following:

“...a tax provision significantly motivated by a policy objective other than to raise revenue that: reduces revenue by lowering tax for a limited or select group of taxable entities; is able to be replaced by a direct expenditure programme; and is neither administrative in nature or motivated by a domestic double taxation objective.”

1.6.5 The definition incorporates five characteristics that define a tax expenditure. These characteristics are now discussed.

1.6.6 *Non-revenue policy objective*: There may be multiple objectives requiring “an element of judgement”. The drawback to inserting this into the definition is that many elements of the tax system have a non-revenue policy objective. It is very difficult to sustain the argument that the tax system is chosen to obtain the greatest revenue. For example, the personal allowance is unlikely to enhance revenue. Only in rare cases (such as the introduction of a new relief) is a rationale given for the components of the existing system. If negative tax expenditures are ruled out, then any tax expenditure is non-revenue raising. Instead, “policy objective” could be clarified as social, or redistributive, or set to “help or encourage particular individuals, activities or products”, as defined by HMRC.

1.6.7 *A reduction in revenue*: The ‘non-revenue raising objective’ seems to be unnecessary, and is possibly so broad as to be meaningless. Almost all provisions will have non-revenue raising objectives to some extent and from (1.6.6) a “non-revenue raising objective” already implies a reduction in tax revenue.

1.6.8 *A limited or targeted group of taxable entities*: This rules out “policy-motivated tax provisions that are generally applicable to all taxpayers”, e.g. tax-free interest on ISAs or deductibility of pension contributions. Further clarification would be needed: How limited is limited? When is something a specific form of economic activity? (E.g., are domestic gas and electricity consumption or food consumption a specific form of economic activity?) In this context, is the policy-motivated zero-rate VAT a tax expenditure subject to the fiscal report or the tax policy report?

1.6.9 *Able to be replaced by direct spending*: If restricted to spending this rules out negative tax expenditures, e.g. from higher excise tax rates. So, the definition may need in any case to include charges and negative expenditures. The more general issue here is whether this is about being able to replace the tax expenditure in *principle* or in *practice*. This is important, since insisting it is done in practice will lead to a much reduced set of tax expenditures. This is because a tax expenditure that impacts upon taxpayers in a non-uniform way will only be equivalent to a spending programme that is individualised. This is fine in theory, but is not a practical proposition. Conversely, if replacement by expenditure is treated as a theoretical possibility, then almost any deviation from a uniform system of taxation will be a tax expenditure.

1.6.10 *Not administrative or domestic double tax measures*: This rules out tax exemptions that are used when collecting (small amounts of) tax is uneconomical. It also rules out tax

adjustments such as imputation credits. The exclusion of administrative provisions seems to be wrong, because to do so would remove them from potential scrutiny. Where a particular category of taxpayer, for example, is given special treatment for administrative purposes such as flat rate VAT or simplified expenses for SMEs, there still needs to be monitoring because of the loss of revenue. There are also reservations about excluding double taxation measures such as imputation credits.

1.6.11 Furthermore, applicability of the reduction in revenue and replacement by direct spending depends on what is assumed to be the current tax practice. For example, progressive tax rates can be viewed as “structural”, rather than as a tax expenditure, since they fail on being targeted to a group or replaceable by direct spending. However, this position is questionable. If the highest rate of tax is assumed to be the current tax practice, any lower rates can be replaced by cash transfers, and these lower rates would be targeted at a “limited group” of low-income individuals (or households).

1.6.12 The paper chooses to work from a direct definition of a tax expenditure. We can see the merit in this since it focuses attention on the reasons behind the existence of the tax expenditure. However, there are elements of the given definition that do not seem strictly necessary and others that would rule out reliefs that are generally viewed as tax expenditures in the UK. We prefer to take a more pragmatic view toward the construction of a definition.

1.6.13 Overall, our view is that the definition proposed in Fookes (2009) suffers from the same ambiguities as the definitions of OECD (2010a) and others. The five criteria overlap and depend on the definition of the current tax practice. For these reasons we see benefit in embedding current tax practice within the definition and using this as a practical benchmark.

1.7 Constructing a definition

1.7.1 This section will discuss the logic behind each step taken in the process of constructing our proposed definition.

1.7.2 The first step is to base the definition on the idea of a tax expenditure being a deviation from a benchmark tax system. The key step is the choice of the benchmark and we explore this further below. At this point we wish only to point out that the concept of the benchmark will accommodate some items that could be tax expenditures. To understand this point, consider adopting a flat tax system as a benchmark. Then any rate below the reduced rate will be a positive tax expenditure and any rate above the flat rate will be a negative tax expenditure. The consequence will be that universal provisions, such as the personal allowance in the UK, will be counted as tax expenditures if the standard rate of income tax is taken as the flat rate. We are in agreement with HMRC that the personal allowance is not a tax expenditure and so will permit departures from the flat rate to be part of the benchmark.

1.7.3 A starting point is to say:

“A tax expenditure is a provision in the tax law, motivated by a social or economic policy, that reduces or defers tax liability of a taxable entity in order to help [a particular group] or to encourage a particular activity and can be replaced by a direct expenditure for this purpose.”

1.7.4 This statement does not recognise the *negative* tax expenditures that arise when rates are above the benchmark. Not all countries include negative tax expenditures in their accounting. If it was decided to include negative tax expenditures this definition could be supplemented by the following:

“A negative tax expenditure is a provision in the tax law, motivated by a social or industrial policy, that increases tax liability of a taxable entity in order to discourage a particular activity.”

1.7.5 We are not convinced, however, that such a classification is necessary. A “positive tax expenditure” is a policy-motivated subsidy delivered through the tax system, and the problem, as we see it, is that it does not appear as an item of government expenditure. However, a “negative tax expenditure” seems to be a policy-motivated extra tax delivered through the tax system and it appears on the revenue side of the budget. An exception to this logic is if we wish to aggregate tax expenditures, but we would argue that the “netting out” that occurs with aggregating results in such a measure has little value.

1.7.6 This still leaves the position of the progressive income tax as ambiguous. One can add “minority” in the definition, i.e. “...reduces tax liability of a minority of taxable entities”, but this is not satisfactory, because differential VAT rates, for example, apply to all consumers (who are in that case taxable entities). Perhaps, one should also provide a definition of a “structural relief”, where the criteria would cover the progressive income tax and other such items. It is clear that the definition must account for potential universality.

1.7.7 The tax expenditure definition could also be complemented by a sentence along these lines:

“A tax expenditure is not an integral part of the tax structure but presents an exception or deviation from the structure, typically introduced for a certain period of time to pursue a certain policy objective.”

As an additional benefit this extension to the definition would motivate the review and assessment of the stock of tax expenditure provisions on a regular basis. This is important because often it is impossible to predict for how long a particular relief needs to be in place in order to achieve its objective. Of course, the tax structure itself can change over time, and the difference would be in the perception, i.e. no one would question the principle of progressivity of the personal income tax. At the same time, the reduced VAT on food or electricity for domestic use can, in principle, be introduced or removed any time and replaced by direct cash assistance without necessarily causing riots. On the other hand, a fixed-time

temporary reduction in the standard VAT rate can be used as a demand-management policy during a recession.

1.7.8 The idea that a tax expenditure can be replaced by a direct expenditure seems important to include even if this is not a practical proposition. The reason for inclusion is the reminder it provides of why tax expenditures should be treated in a similar way to direct expenditures. Hence, we have included it within the definition even if the replacement is hypothetical (using “could” rather than “can” to reflect that the possibility might be hypothetical).

1.7.9 The outcome of this reasoning is the following revised definition:

“A tax expenditure is a provision in tax rules, motivated by a social or economic policy, which reduces or defers the tax liability of a taxable entity in order to help a particular group of taxpayers or to encourage a particular activity and could be replaced by a system of direct expenditures for this purpose. A tax expenditure is not an integral part of the tax structure but presents an exception or deviation from the structure, and is introduced to pursue a specified policy objective possibly for a limited period of time.”

1.7.10 One further step in the reasoning is required. The definition so far violates the requirement of a good definition that it should be self-contained. It is limited in not defining how to judge an exception or a deviation from the tax structure as opposed to what is part of the tax structure. The choice of the benchmark structure is now discussed.

1.7.10 A first possibility is to define the benchmark tax system and then to state what deviations from the benchmark are tax expenditures. There are three options for the benchmark:

1. Take all the universal components of the existing tax system.
2. Take the system that is economically efficient.
3. Take the system that is optimal.

We have already dismissed (3) because it implies all tax expenditures reduce welfare. Equally, the actual tax system mixes motivations of equity, efficiency, and expediency. It will not be practically possible to disentangle these motivations to infer the efficient system.

1.7.11 We do not think that any of the three options fully capture tax expenditures or make it possible to separate structural features from tax expenditures. The key point has to be whether a reduced rate of tax is received automatically or whether it is conditional upon characteristics or choices. For example, the personal allowance is automatically received for the vast majority of taxpayers and so to that extent is not a tax expenditure. An example of a tax expenditure conditional on characteristics is the Blind Person’s Allowance. In contrast, pension relief is received only by those who contribute to a pension and so is conditional on the choice to contribute. Equally, if the default option is to contribute to a pension, the relief

is received only by those who chose not to opt out. We therefore conclude that a tax expenditure is a relief that is conditional on either the possession of a particular set of individual characteristics or conditional on some particular choice being made. In principle, if all taxpayers made the qualifying choice there is no reason why the entire population could not be in receipt of a tax relief.

1.7.12 The outcome of this reasoning is the following final definition:

“A tax expenditure is a provision in tax rules, motivated by a social or economic policy, which reduces or defers the tax liability of a taxable entity in order to help a particular group of taxpayers or to encourage a particular activity and could be replaced by a system of direct expenditures for this purpose. A tax expenditure arises when the entitlement to the reduction in tax liability is conditional on the taxable entity possessing specified characteristics or choosing to undertake or forgo a specified action.”

1.7.13 The component parts of the definition are summarised in table 2.

Characteristic 1	Motivated by a social or economic policy
Characteristic 2	Reduces or defers tax liability
Characteristic 3	Provides a benefit to qualifying taxpayers or encourages an identified activity
Characteristic 4	Potentially replaceable by direct expenditures
Characteristic 5	Conditional on characteristics or action

Table 2: Characteristics of a tax expenditure

1.8 Mixed measures

1.8.1 It is important to note that a policy objective may be delivered only *in part* as a tax expenditure, and it may not be possible to cleanly define a particular measure as constituting a tax expenditure. An example of this is the former working families tax credit which operated in the UK between 1999 and 2003 and which replaced the family credit system as a refundable tax credit rather than as a welfare benefit. To the extent to which the working families tax credit reduced income tax liability, it could be viewed as a tax expenditure. To the extent to which it generated a repayment to the taxpayer, it could be classified as a welfare payment. Another example of this is Gift Aid, which operates differently for basic rate taxpayers than for higher and additional rate taxpayers. For basic rate taxpayers there is no reduction in income tax liability attached to the charitable donation, and so for this category of taxpayer there is no tax expenditure. For higher and additional rate taxpayers, there is a reduction in tax liability conditional upon the action of making a qualifying donation to charity.

1.8.2 A further example is the personal allowance, which for most taxpayers operates as a tax free threshold and can therefore be viewed as being part of the rate structure for income tax. There is, however, an additional personal allowance for older taxpayers, i.e. conditional upon being a certain age, which is a tax expenditure according to the above classification.

1.8.3 These observations show how different elements of the same policy can be tax expenditures or not, dependent upon the details of the operation of the system.

Section 2

Categorising Tax Reliefs

2.1 Introduction

2.1.1 Before discussing potential categories of relief, consideration must be given to the *purpose* of such categorisation. It should also be recognized at the outset that the purpose of categorization is not always clear and will be influenced by the fundamental question of how tax expenditures are viewed: as a tool for potential tax reform, or as a tool for spending reform (Burton and Sadiq, 2013).

2.1.2 There are two main purposes of categorisation:

1. *For reporting purposes.* Most countries that produce a tax expenditure statement, or equivalent, do so for the purpose of publicly acknowledging the spending programme attributes of tax expenditure. This may enable some degree of aggregation with direct spending across budget categories for transparency as to total expenditure commitments. Proponents of tax expenditure reporting suggest it exposes tax expenditures to similar scrutiny as direct expenditures, allows for a more holistic assessment of government activities, and also contribute to tax system design and informing public debate (see, for example, Australia 2013:14). In this regard, the reporting purpose links to political accountability and facilitates external scrutiny of tax policy decisions. It is important that any tax expenditure reporting acknowledge deficiencies in measurement that may lead to inaccuracies in aggregation.
2. *For evaluation purposes.* This requires different considerations. Evaluation should entail reflection as to whether the policy purpose for adopting the tax expenditure remains valid, as well as comprehensive cost-benefit analysis. All of the following categorisations are potentially useful for the purpose of evaluation, however not all of them are appropriate for reporting purposes.

2.1.3 In the following section we examine seven potential categorisations, specifically:

- Mechanism for delivery – the manner in which the relief is computed;
- Type of tax – the type of tax to which the relief pertains;
- Budget category – the budgetary headings to which the relief is attributable;
- Policy objective – the specific policy objective for which the relief was introduced;

- Beneficiary – the entity that will benefit from the reduced tax liability flowing from the relief;
- Size – the magnitude of the relief in terms of its cost to deliver; and
- Risk – the various risk attributes that may interfere with the effectiveness of the relief.

2.2 Categorisation by mechanism for delivery

2.2.1 Tax expenditures can be delivered through a variety of mechanisms relating to different aspect of the tax structure. The way in which a tax expenditure is delivered will have implications for distribution of the tax burden, the complexity of the tax expenditure, and the cost in terms of both administration and compliance costs.

Fundamental concepts:

All forms of tax relief, whether applicable to direct or indirect taxes, can be delivered through manipulation of one or more common elements, specifically:

Base – the value on which the tax is levied, for example annual income in the case of income tax, value of assets in the case of capital gains tax.

Rate – may be proportional where the same percentage applies across the whole base, progressive where the rate of tax increases as the value of the base increases, or regressive where the rate of tax decreases as the value of the base increases.

Tax liability – the amount of tax payable as a result of applying the appropriate rate of tax to the value of the tax base.

Taxpayer – who will be liable for payment of the tax? Here the extent to which a tax can be shifted to other parties will be important for determining the distributional impact.

Administrative provisions – the manner in which taxes are collected, for example, by self assessment or direct assessment. These impact upon the operational costs of any tax which comprises both administrative costs (of government) and compliance costs (of taxpayers).

2.2.2 Discussions of tax relief and tax expenditures delivery mechanisms usually distinguish exemption, allowance/deduction, credits and rate reliefs. These delivery mechanisms relate to the fundamental concepts described above, and may equally be used to describe structural features of a tax system. There is no clear correlation between the delivery mechanism and classification as either a tax expenditure or structural feature of the tax system, such classification being problematic and linked to the definition of the benchmark tax system, as discussed in sections 1 and 4. Sub-categorisation is possible and potentially useful. We identify seven categories, some of which are further subdivided.

1. Exemption- '*exclusion of an otherwise taxable amount from the tax base*'.

For example:

Capital gains tax potentially applies to all assets, tangible and intangible. In the UK a number of assets have been identified as not giving rise to a capital gains tax liability for various reasons.

The capital gains tax exemption for motor cars is an example of an exemption from the base with a dual purpose - to prevent revenue erosion, since the sale of most motor cars will result in a loss, and also to shelter motor cars that do not depreciate, such as classic cars. Another example is the principal private residence relief which exempts the gain on disposal of a taxpayer's main place of residence under certain conditions from capital gains tax.

2. Deduction (also referred to as allowance) – *'an amount by which the tax base is reduced'*.

The value of a deduction to an individual taxpayer will vary according to his or her respective marginal rate of tax. For example, in an income tax with progressive rates, a deduction will deliver greater relief in absolute terms to a higher marginal rate taxpayer than to one on a lower rate.

For example:

Under both income and corporation tax, the capital allowance regime allows for a proportion of qualifying expenditure on plant and machinery to be deducted in the computation of the tax base. The regime creates a specific set of tax rules that departs from normal accountancy treatment by way of depreciation.

Under income tax, corporation tax and capital gains tax, relief is allowed for losses (where expenditure exceeds revenue) on particular activities and or transactions.

3. Credit (also referred to as offset) – *'an amount by which the tax liability is reduced'*.

Delivery of tax expenditures through credits will result in all recipients receiving the same amount of relief in absolute terms. Relief by way of credit may be either wasteable or non-wasteable.

- 3.1 Wasteable – if the taxpayer is unable to benefit from the relief; where the pre-relief tax liability exceeds the amount of relief entitlement, the excess is wasted, i.e. it is not transferrable to another person or to a different time period.

For example:

Dividend imputation credits are available to individual taxpayers in receipt of dividends that are subject to income tax. If the value of the dividend credit exceeds the income tax liability, the excess credit is wasted and not refunded to the taxpayer.

- 3.2 Non-wasteable – if the amount of relief entitlement exceeds the tax liability, the excess is refundable to the taxpayer.

For example:

Under UK corporation tax, credit is available for up to £24.74 for every £100 of qualifying Research & Development expenditure for loss-making companies. (This displaces the normal rule that losses must be relieved against profits from other years for specified taxpayers).

Some credits may be partially wasteable. For example under income tax the blind person's allowance [ITA 2007 s38-41] is ostensibly wasteable, however any excess may be transferred to a spouse.

4. Rate reliefs:

4.1 Concessionary rates – *'a reduced rate of tax applicable to all or part of the tax base'*

For example:

Under capital gains tax, entrepreneur's relief is available (subject to a monetary lifetime limit) to reduce the rate of tax otherwise payable at 10% on the sale of a business.

In VAT, a reduced rate of 5% applies, for example, to mobility aids for older people. The zero rate applies to a variety of items, including clothes for children. (See HC (2013) SN01123 for review.)

4.2 Extensions of rate bands – *'an extension to the amount of tax base to which a particular rate of tax applies'*

Under a progressive rate structure, transition to a higher rate of tax occurs at a specified value of the tax base. By increasing the value at which this transition takes place, more of the base is then taxed at the lower rate, i.e. the application of the next marginal rate is delayed.

For example:

Under income tax, Gift Aid [ITA 2007 Part 8 Chap 3] relief is delivered to higher and additional rate taxpayers by means of an extension of the basic rate band equivalent to the gross value of the gift.

4.3 Averaging – *'application of the tax rate to a base averaged over a number of years'*

For example:

Under income tax, farmers and market gardeners are able to average their profits over two years in order to mitigate the effect of widely fluctuating incomes.

5. Tax-free threshold -- *'a specified portion of the tax base on which no tax is payable'*

For example:

Under income tax the age-related personal allowance delivers a larger tax-free threshold than is normally available to taxpayers within specified age ranges. (See HC (2013) SN6158 for review.)

6. Deferral – ‘a temporal delay in payment of a tax liability’

For example:

Under Corporation Tax, the disposal of an intangible asset may trigger a tax liability. Where the proceeds of such a disposal are reinvested in another intangible asset, rollover relief operates to prevent the crystallization of the liability on the asset disposed of. [CTA 2009 s754-763]

7. Administrative concession – ‘a special arrangement that modifies payment or compliance requirements for a specified group of taxpayers’

There is some debate about whether tax subsidies delivered by means of administrative concession rather than directly affecting tax liability should be included.

For example:

Under income tax, special rules apply to compute the tax liability for personal service intermediaries (IR35), part of which entails allowing a deemed 5% flat rate expenses deduction. [ITEPA 2003 s54]

Some tax expenditures are delivered through a combination of mechanisms. The UK Gift Aid relief under income tax is an example of the complexities. The broad policy objective is to encourage charitable contributions. Delivery of the policy objective is achieved through direct subsidy to charities matched to qualifying individual donations. In order to fund donations, taxpayers are required to pay sufficient income tax and/or capital gains tax to cover the subsidy. Where a taxpayer does not do so, an assessment may be raised, and this situation can therefore be viewed as a negative tax expenditure. For basic rate taxpayers, no additional tax relief is available, however for higher and additional rate taxpayers, relief is provided through rate band extension, as noted in item 4.2 above. Under corporation tax, Gift Aid relief is delivered by way of a deduction (item 2 above).

2.3 Categorisation by type of tax

2.3.1 Tax reliefs can be categorized by type of tax, i.e. according to the particular tax base to which they belong. Some reliefs will cut across tax types, i.e. be delivered through more than one type of tax, as in the case of the Enterprise Investment Scheme which allows for relief under both income tax and capital gains tax based on the same investment.

2.3.2 The Office for Tax Simplification, for example, in identifying specific reliefs in the UK tax system, categorized them as follows¹:

¹ <https://www.gov.uk/government/publications/tax-reliefs-review>. This categorization includes tax reliefs as well as tax expenditures.

Tax or duty	Number of reliefs
Aggregates Levy	27
Air Passenger Duty	10
Bank Payroll Tax	2
Capital Gains Tax	44
Capital Gains Tax & Corporation Tax	33
Climate Change Levy	14
Corporation Tax	104
Customs Duty	10
Excise Taxes	7
Gambling Duty	12
Hydrocarbon Oils Duty	13
Income Tax	225
Income Tax & Capital Gains Tax	6
Income Tax & Capital Gains Tax & Inheritance Tax	1
Income Tax & Corporation Tax	89
Income Tax & Corporation Tax & Capital Gains Tax	4
Income Tax & Corporation Tax & Capital Gains Tax & Stamp Duty Land Tax	2
Income Tax & National Insurance Contributions	73
Inheritance Tax	89
Insurance Premium Tax	11
Landfill Tax	9
National Insurance Contributions	73
Petroleum Revenue Tax	12
Stamp Duty	45
Stamp Duty Land Tax	43
Stamp Duty Reserve Tax	17
Stamp Duty Reserve Tax & Stamp Duty	12
Value Added Tax	55
Grand Total	1042

Table 4: OTS categorisation

2.3.3 Canada (see 2012 report at <http://www.fin.gc.ca/taxexp-depfisc/2012/taxexp-depfisc12-eng.pdf>) produces individual reports by type of tax (income tax, corporation tax

and Goods and Services Tax (GST). Within each type of tax, reporting is by functional category. A caveat to the report notes that ‘grouping is provided solely for presentational purposes and is not intended to reflect underlying policy considerations’.

2.4 Categorisation by budget category

2.4.1 Categorisation of tax reliefs by budget category can be useful for the comparison of direct expenditures within the same categories.

2.4.2 Australia reports aggregated tax expenditures by functional category based on an international standard classification of government that is incorporated in the Government’s financial statistics framework. Also reported is a comparison between aggregate tax expenditures by function with direct expenditures by the same functions.

Example: Australia 2013

Table 1.4 Aggregate (measured) tax expenditures by function (extract)

Defence
Public order and safety
Education
Health
Social security and welfare
Housing and community amenities
Fuel and energy
Agriculture forestry and fishing
Mining manufacturing and construction
....

Table 5: Budget category

2.4.3 *The US Joint Committee on Taxation report (2013)* Tax Expenditure by Budget Function specifies within each budget category the nature of specific tax expenditures. This report only covers Federal income tax provisions, however. Interestingly, under the heading ‘Commerce and Housing’ are a variety of business-related provisions where the tax treatment deviates from standard accounting treatment (US GAAP).

2.5 Categorisation by policy objective

2.5.1 While most countries that produce tax expenditure statements present some analysis by budget category, none specifically states the policy objective that the tax expenditure is designed to achieve. One difficulty with this is that the policy objective may not be clearly articulated at the point of introduction of the tax relief. Policy objectives may relate to particular types of taxpayer or particular economic or social activity. Possible policy objectives that could be used to categorise tax reliefs include encouragement of/incentives directed towards:

2.5.2 Broad policy objectives:

- 'Making work pay' – easing the transition from welfare to paid employment;
- Small & medium enterprises – recognizing the need to subsidise small enterprises that operate at a competitive disadvantage vis-à-vis larger counterparts;
- Environmental protection.

2.5.3 Targeted (narrow) policy objectives:

- Charitable giving;
- Innovation through research and development;
- Housing market;
- Savings and investment.

2.5.4 By categorising reliefs according to broad policy objective, overlaps and gaps can be identified as well as the potential for conflicting incentives pulling resources in different directions. This categorization would also allow for analysis of behavioural effects, by identifying related incentives and concessions which may act as substitutes/alternatives in the event of withdrawal or expiry of a particular tax relief.

2.5.5 Canada itemizes each tax expenditure with a description of the mechanism by which it is delivered and a clear, but broad, statement of the objective of the measure and when it was introduced.

2.6 Categorisation by beneficiary

2.6.1 It is possible to categorise tax reliefs by characteristics of beneficiaries, which would link to the approach of categorization by risk (see 2.8 below). For individual beneficiaries of tax reliefs, analysis by income group and other demographic characteristics, such as geographical location, would enable more finely grained analysis of the distribution of tax reliefs across

society. Canada, for example, reports specific reliefs across income bands. This shows the distribution of the benefit of reliefs between the poor and the more affluent.

2.6.2 In the case of business enterprises, possible identifying characteristics should include size (using the normal determinants, i.e. assets, employees and turnover), and complexity of operations (for example, whether the business entails offshore operations and/or investment).

2.7 Categorisation by size

Size here is a reference to the monetary value of the tax relief in terms of revenue foregone (where measurable). Measurement difficulties constrain the production and usefulness of this categorization, but it may nonetheless be possible to give a broad-brush comparative indication of the relative monetary significance of tax reliefs.

2.7.1 *Australia 2013* reports large measured tax expenditures, which for 2012-13 ranged from \$17,100m for concessional taxation of superannuation entity earnings to \$610m for 'senior Australians' and pensioners' offset' (credit). For tax expenditures where an estimate is not available, an order of magnitude is assigned to give an indication of size:

Order of magnitude range (Australia 2013: page 29)

Category	Expected tax expenditure (\$m)
0	0 on average
1	0 — 10
2	10 — 100
3	100 — 1,000
4	1,000 +
NA	not available

2.8 Categorisation by risk

2.8.1 Tax reliefs by their very nature create boundaries in the tax system. Whenever boundaries are present, whereby tax liabilities differ depending on which side of the boundary a taxpayer falls, there is potential for abuse. Boundaries can never be clearly enough articulated in law to create unambiguous interpretations; there will always be room for dispute over the nature and scope of any boundary and this needs to be recognized in the context of categorization by risk.

2.8.2 There are several risks associated with tax reliefs that need to be considered separately as well as in aggregate. We identify eight risks as follows:

- 1 The relief does not deliver policy objective.

- 2 The relief costs more than anticipated, e.g. due to unanticipated compliance costs associated with difficulties in accessing the relief.
- 3 The relief cannot be measured with accuracy in light of uncertainties including taxpayer behaviour.
4. The data required to measure the tax relief is too costly or difficult to collect.

For example: Australia 2013

Allocates reliability ratings according to the quality of data on which estimates are based. This is reported (with descriptors ranging from High to Very Low) for each tax expenditure.

- 5 The relief becomes embedded in market mechanisms making removal difficult, for example, the principal private residence exemption in capital gains tax.
- 6 The relief is not taken up by intended beneficiaries, for example, due to a failure to anticipate take-up by groups for whom the relief was not designed.
- 7 The relief conflicts or overlaps with other reliefs or direct spending.
- 8 The relief results in greater loss of revenue than anticipated.
- 9 The relief is subject to abuse resulting in lost revenues.

2.9 Risk of abuse: additional considerations

2.9.1 The final category in section 2.8.2 above (risk of abuse) is particularly problematic and requires consideration of:

2.9.2 Type of taxpayer - risk related to the type of taxpayer to whom/which the relief is directed. It is well recognized that some types of taxpayers are more prone to non-compliance, which can include a range from deliberate and fraudulent abuse at one extreme to genuine mistake at the other. Taxpayers should be classified according to propensity to avoidance/evasion; for example, large corporates and employed individuals are unlikely to engage in tax evasion/fraud.

2.9.3 At the level of individuals, HMRC's customer segmentation provides a possible basis for analysis. While the segmentation into 'willing and able', 'willing but need help', 'potential rule breakers', 'rule breakers' and 'unaware' are being mobilized in the context of detecting non-compliance, they may also be useful in assessing the potential for misuse of reliefs. Further research would be needed to investigate whether the degree of correlation between segmentation categories and the risk of misusing reliefs. In the context of large businesses,

the HMRC risk rating mechanism is more sophisticated and would be a useful tool in evaluating the potential for misuse of reliefs by this category.

2.9.4 Complexity of relief design – the more complex the legislative provisions, the more points at which leakage can occur. This does *not*, however, necessarily relate to the language in which the legislation is couched. As Evans & Tran-Nam (2013) observe, '[t]ax complexity is a multidimensional concept and as such it cannot be easily defined or uniquely measured'. The authors approach the question of complexity measurement in a similar spirit to the work of the Office of Tax Simplification although they disagree on the methodology for deriving a complexity index.

2.10 Categorisation proposed by Knowledge, Analysis, Intelligence (KAI), HMRC

2.10.1 KAI has proposed two alternative ways of categorising tax reliefs, administrative and economic. The administrative classification distinguishes the reliefs according to how they are "legally or administratively structured in the tax system". The economic classification is based upon the purposes and the impacts of the reliefs. It is recognised that a relief that has multiple purposes will fall in more than one economic category. The document does not use the term tax expenditure and emphasises not attempting to define a relief.

2.10.2 The administrative approach defines six broad categories: (1) Exemptions; (2) Exemptions from a standard tax and replacement with a special milder tax regime; (3) Relief not specified in the tax system at all, as deduction takes place automatically; (4) Explicit reliefs which reduce income (or tax base) on which the tax rate is applied; (5) Reduced rates of tax; (6) Reductions in amount of tax payable after applying the tax rate.

2.10.3 The economic approach defines six categories, with three sub-categories in the first one. These are: (1) Provisions to ensure that income or profit is correctly measured when the starting point in the calculation is higher; sub-categories: (1.1) Reliefs that ensure that income or profits are correctly measured in year; (1.2) Reliefs to ensure that income or profits are correctly measured over multiple years, and not double-counted; (1.3) Reliefs to prevent double taxation of the same income across multiple taxpayers; (2) Reliefs to provide incentives for behaviour that may be conducive to economic or social objectives; (3) Reliefs to ensure that the scope of the tax is as intended; (4) Allowances to achieve the desired progressivity of the tax, i.e. for redistribution objectives; (5) To create simplicity, i.e. where administrative costs would otherwise be disproportionate; (6) To comply with international obligations and/or avoid double taxation in cross-border situations.

2.11 Conclusions

The table below summarises the possible categorisations.

Categorisation	Purpose	Benefits	Used
1. Delivery mechanism	Evaluation	Ensures measurement takes account of relevant factors, e.g. distributional impact	Australia – part of reporting by individual relief
2. Type of tax	Reporting	Contributes to better understanding of the relative reliance on different forms of tax.	Canada (income tax, corporation tax and GST) Australia (measured tax expenditures by benchmark)
	Evaluation	Aligns with HMRC operational categories	
3. Budget category	Reporting	Allows aggregation and clarity of comparison between spending and tax expenditures.	US (only reports income tax) Canada–used as a sub category within a type of tax presentation Australia – by function – tax expenditures and direct spending, also aggregated by function
	Evaluation	Allows consideration of whether incentive/concession best delivered as relief or direct spending	
4. Policy Objective	Reporting	Reporting contributes to political accountability	Canada – objective stated for each individual tax expenditure
	Evaluation	Creates framework for evaluating whether objectives continue to be relevant and met.	
5. Beneficiary	Reporting	Reporting contributes to public accountability.	Canada – selected tax expenditures reported across income bands
	Evaluation	In evaluation useful for assessing distributional consequences.	
6. Size (cost)	Evaluation	Magnitude of revenue foregone useful in prioritizing evaluation	Australia – reports large (in \$ terms) tax expenditures
7. Risk	Evaluation	Allows for prioritization of evaluation	Australia – reports reliability of quantification

Table 3: Possible categorisations

The choice of categorisation depends on the purpose to which it will be put. If the purpose of categorisation is to provide better reporting for public accountability purposes, we recommend budget category accompanied by policy objective and type of taxpayer which benefits from the relief. If the purpose is better evaluation, we recommend identification of all seven categorisations for each relief. For purposes of identifying evaluation priorities, we recommend size (cost) and risk as the key determinants of reliefs for review, in the interests of proportionality.

Section 3

Potential Review

3.1 Need for review

3.1.1 Tax expenditures reduce the amount of tax revenue received, and so are a cost to the public purse. This cost can only be justified if the tax expenditure is a cost-effective method of achieving its stated objective. Tax expenditures should be subject to the same appraisal rules as any other form of policy intervention.

3.1.2 In section 3 of this report we will argue that a process and timetable of review should be built into the design of tax expenditures. The present discussion will focus upon what features should identify existing tax expenditures for priority of review or increase the proposed frequency of review for future tax expenditures.

3.2 Characteristics determining review

There is a range of characteristics that can be deemed relevant for determining the necessity of review. These are summarised in Table 6 and then discussed in more detail.

Characteristic	Comments
Time since introduction	Policy relevance likely to reduce
Policy objective	Objectives evolve over time
Value	Relative to benefit
Risk	Possibility of abuse/mistake

Table 6: Characteristics relevant for review

3.3 Time since introduction

3.3.1 The proposed definition of a tax expenditure identifies the time element as an important component. A tax expenditure is introduced to achieve a purpose, so as time elapses it becomes necessary to re-assess whether the purpose is met or, indeed, whether the purpose is still relevant. The passage of time since introduction does not necessarily render a tax expenditure out dated, but it does raise the possibility.

3.3.2 The UK system currently has many tax expenditures that are long-established. Since there has been no prior process of time limitation there has been a tendency for tax expenditures to accumulate. This seems to be particularly the case when the value is small so that it is not currently measured by HMRC. Making time since introduction a trigger for review will prevent future accumulation of tax expenditures and ensure that those in operation are achieving the intended purpose.

3.4 Policy Objective

3.4.1 We have argued above that the policy objective of a tax expenditure is central in the definition. We describe in Part 3 how this should be made explicit when a new tax expenditure is proposed and how any proposal should be tested against the objective.

3.4.2 Policy objectives change over time because of changes in government or in response to external shocks. In our proposal a tax expenditure should have a clearly stated objective. If the objective is unclear or the intentions of government change and this objective no longer forms part of government policy then a review should be triggered. This proposal will be feasible if the explicit statement of an objective is made an integral part of the design process.

3.5 Value

3.5.1 The current position is that only a small number of tax expenditures have their values measured and reported. Parts 2 and 3 make proposals on valuation that include an obligatory annual valuation.

3.5.2 It is not the value of a tax expenditure *per se* that is relevant. What does matter is the value relative to the benefits obtained from the expenditure. Explicit government expenditures have to be tested using the cost-benefit processes set out in the Green Book. Tax expenditures should be subject to the same rigor of test in the evaluation process prior to introduction.

3.5.3 Taking these points into account what should trigger review is an increase in value that is deemed to be significant relative to the benefits that were estimated in the evaluation stage. For existing tax expenditures there is likely to be no benefit evaluation against which cost can be measured. We detail below a proposal for how this can be overcome.

3.6 Risk

3.6.1 Tax expenditures can be subject to abuse and mistakes. This can result in the misuse of public money or the unjustified receipt of payments. Tax expenditures identified as high-risk should be subject to more frequent review of functioning.

3.6.2 Abuse of tax expenditures can take several forms. It is possible for simply false claims to be made, perhaps, supported by fake documentation. It is also possible that abuse can occur through a change in situation following a correct initial application. Activities may also be adjusted purely to benefit from tax expenditures. This is rational if the gain exceeds the cost of adjustment.

3.6.3 Errors in administration are always possible. They are more likely to occur where there is a mismatch between the information that is held on record and the information that is required for the tax expenditure. For example, personal income is levied on an individual basis, and so records do not hold information on household structure. A tax credit conditional on family income will be incompatible with the personal income tax database, hence the potential for administrative error arises.

3.6.4 The aggregate risk of a tax expenditure can be computed using the methods of credit scoring. This process takes a set of indicators and aggregates these into a final value, or “risk score”, using weights on each indicator that are derived from data and past experience. Statistical techniques identify the relevant indicators. These techniques could be applied to individual reliefs or to an aggregate of a class of relief. The choice of whether it should be individual or aggregate will depend on how closely risk is related to the administrative details of the relief.

3.8 Application

3.8.1 The discussion has identified several important characteristics and the implications that they carry for review.

3.8.2 The table summarises the discussion and suggests potential review triggers for each of the characteristics.

Characteristic	Review Trigger
Time since introduction	Review date fixed on introduction is achieved
Policy objective	Objective falls outside of current policy intentions or is unclear
Value	Increases significantly above expected levels (say, by 25 percent)
Risk	Increase in risk score above specified tolerance level

Table 7: Implementation of review triggers

3.8.3 As an example of international practice, tax expenditures in the US that fall under the so-called cross-agency priority (CAP) goals (identified as (1) veteran career readiness, (2) entrepreneurship and small business, (3) energy efficiency, and (4) job training) are evaluated by the respective agencies on a regular basis determined by specific guidance. The timing for conducting evaluation of those tax expenditures that do not fall under CAP goals is determined according to the following criteria: (1) judgmental basis (e.g., in Canada every year 1 or 2 tax expenditures are selected by the Department of Finance for evaluation); (2) established criteria (e.g., evaluation older tax expenditures first; focus on tax expenditures with the largest revenue losses); (3) evaluating a new tax expenditure before it is enacted; and (4) evaluating an existing tax expenditure before it is extended.

3.9 Proposal

3.9.1 The Office for Tax Simplification has detailed over 1000 potential tax reliefs in the UK tax system (OTS, 2011). Many of these have been in operation for an extended period of time and have low monetary value.

3.9.2 The criteria identified above have identified time since introduction and policy objective as important determinants of review. Many of the tax expenditures documented by the OTS would merit review on the application of these criteria.

3.9.3 The drawback is that the number of tax expenditures involved would make any review costly and time consuming relative to the expected value of savings. The vast majority of the tax expenditures are not valued by HMRC, thus limiting information on which to base a review.

3.9.4 We propose that a better approach will be to begin with a presumption that any tax expenditure introduced prior to 1996 (or some other date to be determined by policy makers) has achieved its policy objective. Consequently, any process of review should begin on the basis that tax expenditures introduced prior to 1996 will be withdrawn *unless* a valid policy argument is made for their retention. The tax expenditures that are retained after this process should then be subject to a specified process of review.

3.9.5 The nature of a valid policy argument is that the tax expenditure succeeds in passing through the evaluation process we describe in Part 3. Hence, any existing pre-1996 expenditure should be treated and assessed as if it were newly introduced before it can be permitted to continue.

3.9.6 Once this process is complete, tax expenditures post-1996 should be treated to the same process of review in time order until the point is reached at which all expenditures have passed a process of evaluation.

PART 2

Costing Reliefs

Summary

Part 2 covers the three elements required for a system of costing tax reliefs:

- The choice of benchmark tax system;
- The principles of calculating the costs of tax reliefs;
- The mechanics of how the calculations are made.

It concludes with a summary of its conclusions in the form of a model that could be used to estimate the direct and indirect costs of a relief.

Section 4

The Choice of Benchmark Tax System

4.1 Introduction

4.1.1 The costing of a tax expenditure involves a comparison with a benchmark tax system. This section provides a detailed discussion of the alternative choices.

4.2 Alternatives

4.2.1 There are two broad approaches to the choice of benchmark:

1. The *conceptual approach*, in which the benchmark is defined as some abstract tax system that is seen to have desirable neutrality properties, not giving particular tax advantages to a limited number of people or activities. This is sometimes referred to as a 'normative' approach but, as discussed in Part 1, this leads to a situation in which tax expenditures cannot, logically, be beneficial.
2. An approach based on *current tax law*, but without the provisions that are seen as benefitting particular groups (of people or corporations) or favouring particular activities (such as research or investment in pensions).

4.2.2 These alternatives will be discussed in turn followed by:

- The benchmarks used in practice;
- The relative merits of the benchmarks;
- Conclusions to be drawn.

4.3 The conceptual benchmark

4.3.1 There are two commonly discussed benchmarks of the conceptual form relating to income tax systems:

- a. The *comprehensive income benchmark* defines the desirable tax base for a tax unit as the sum of its members' consumption and the increase in the real value of their assets. This amounts to the sum of all their income and capital gains (positive or

negative); where capital gains (losses) reflect losses in the real value of all their assets that are caused by inflation. This is often referred to as the Haig-Simons tax base.

- b. The *expenditure benchmark* defines the desirable tax base for a tax unit as the sum of its members' consumption. This amounts to the tax unit's income minus its net savings. This is essentially the same income tax base as that recommended by the recent Mirrlees Review (Mirrlees et al, 2010) and by the earlier Meade Report (Meade, 1978).

4.3.2 Note that neither of these benchmarks specifies the composition of the tax unit for personal income taxation: whether it should be the individual, the couple (for those people in couples) or the family (for those people with dependent children). This choice can have a very substantial effect on the amount of money raised by an income tax system. Also, neither of these benchmarks specifies the nature of the tax schedule that should be applied to the base that they have defined (the "tax structure" as discussed in Section 2). Finally, it gives no guidance as to whether business profits should be taxed at both the corporate and the personal level. So, there is still scope for those who agree on the general principles to disagree on exactly what constitutes a tax relief.

4.3.3 As much of the discussion of tax reliefs (more commonly referred to as tax expenditures) has taken place in connection with the United States' Federal Budget, in which there are almost no consumption taxes, there has been less discussion of a conceptual approach to consumption tax expenditures. The consumption taxes that raise by far the largest revenues in OECD countries are general consumption taxes (such as VAT), that apply to almost everything, and excise taxes that are designed to target specific goods.

4.3.4 As the purpose of excise taxes is to discriminate between different goods and discourage consumption, the concept of tax expenditures does not really apply. In contrast, it is natural to think that a benchmark for a consumption tax should be a uniform tax applied to all forms of consumption. This is partly because it is equitable between people on similar incomes who have different tastes, and partly because it does not discriminate between particular types of consumption.

4.4 The current law benchmark

4.4.1 It has been noted in Section 1.5 that in practice the definition of the benchmark differs between countries. Although most countries measure tax expenditures relative to the tax system in operation there are significant differences in detail.

4.4.2 As the benchmarks vary from country to country, there is little to say about them in general. The most important point is that they are more subjective than conceptual benchmarks because people can reasonably differ in their judgement of whether a particular

provision is sufficiently different from the general principles of the tax law to qualify as a tax relief. However, as discussed in section 4.3, even conceptual benchmarks do not fully specify the benchmark tax system.

4.5 Benchmarks in practice

4.5.1 Several OECD countries use a version of the comprehensive income tax benchmark, including Australia, Canada, Finland, Sweden, Switzerland and the US (OECD, 2010b). The US also reports tax expenditures on a tax law benchmark. However, all of them modify the pure benchmark in some respects, such as not adjusting capital income for inflation, giving preferential treatment to owner-occupied housing and delaying the taxation of capital gains until realisation.

4.5.2 Two of these countries, Switzerland and US, have also reported on the basis of an expenditure tax benchmark. It appears that most of the other OECD countries use some sort of current law benchmark.

4.5.3 There is less information on the benchmarks used for consumption taxes but, judging from the tax expenditure tables in OECD (2010b), several OECD countries use the single rate VAT benchmark, including Canada, Denmark, Greece, Mexico, Norway and Spain.

4.5.4 The UK does not provide a clear statement of its benchmark. However, the tax expenditure tables in OECD (2010b) suggest a version of the comprehensive income tax benchmark and a single rate VAT benchmark.

4.6 The relative merits of the two types of benchmark

4.6.1 Conceptual benchmarks are based on clearly stated principles and so there is less room for subjective judgements. However, not every aspect of the tax system is defined by the benchmark and subjective adjustments are always made.

4.6.2 The other advantage of a conceptual benchmark is that it results in estimates of the costs of tax reliefs that are more internationally comparable. However, this must also be qualified by the fact that the benchmark can be interpreted differently in different countries. There is also the point that international comparisons may not be very relevant for domestic tax policy decisions.

4.6.3 Current tax law benchmarks are more subjective but have the advantage that they are more closely related to the current tax system, so that the estimate of the cost of a tax expenditure is equivalent to estimating the revenue gain of removing the corresponding legal provision. This is not true of a conceptual benchmark if the general provisions of the tax law

do not correspond to the benchmark. This makes current tax law cost estimates more practically relevant and more politically appealing.

4.6.4 If a conceptual benchmark is chosen, there is still the issue of whether it should be a comprehensive income benchmark or an expenditure benchmark. The recent Mirrlees Review (Mirrlees et al, 2010) recommended policies close to an expenditure tax, and such a tax has the appeal of being 'more neutral' in that it does not discriminate against savings (while such discrimination is a fundamental feature of the comprehensive income tax) or between types of assets (which is a feature of all practical applications of the comprehensive income tax). It also avoids the difficulty of whether the taxation of business profits at both the corporate and the personal level is part of the benchmark.

4.6.5 However, a conceptual benchmark has an important practical disadvantage in that it would produce a large number of negative tax expenditures, such as the current taxation of interest income. This produces misleading results if a total of all tax expenditures is calculated because the negative tax expenditures will counterbalance the positive tax expenditures, resulting in a misleadingly low estimate of the extent to which tax expenditures are used.

4.7 Conclusion on the benchmark

4.7.1 The main arguments for a conceptual benchmark are that there is less scope for subjective judgements and that it facilitates international comparisons. However, international comparisons are still difficult to achieve because:

- (i) Relatively few OECD countries use a conceptual benchmark, in the sense that is used here;
- (ii) There are still substantial differences in the benchmarks of countries, over such issues as whether the personal income tax is levied on the joint income of couples or on the income of each individual, that there is little value in international comparisons;
- (iii) The OECD countries that use a conceptual benchmark have chosen the comprehensive income tax, but they differ in the way the benchmark deals with taxation of business profits.

These difficulties also show the weakness of the argument that there is less subjectivity: that may be so, but the benchmarks can clearly be interpreted in significantly different ways by different people.

4.7.2 This lack of consensus on the details of a conceptual benchmark makes the practical advantages of current law benchmarks relatively strong. If the purpose of costing tax expenditures is to play a part in evaluating whether individual tax reliefs represent good value for money, the fact that the benchmark is reasonably socially acceptable makes the removal

of poor value tax expenditures more likely to succeed. Also, the costing of any tax relief will be more relevant as it will represent an estimate of the actual revenue savings that would be achieved if the relevant clause in the tax law is removed.

4.7.3 The crafting of a conceptual benchmark would involve a great deal of subjectivity and be potentially misleading. Our conclusion, therefore, is that the UK should use a current law benchmark that is defined as the tax system that would result from removing all tax expenditures from the current tax system, where tax expenditures are defined as in Section 1:

“A tax expenditure is a provision in tax rules, motivated by a social or economic policy, which reduces or defers the tax liability of a taxable entity in order to help a particular group of taxpayers or to encourage a particular activity and could be replaced by a system of direct expenditures for this purpose. A tax expenditure arises when the entitlement to the reduction in tax liability is conditional on the taxable entity possessing specified characteristics or choosing to undertake or forgo a specified action.”

Section 5

The Principles of Calculating the Costs of Tax Reliefs

5.1 Introduction

5.1.1 This section discusses:

- The relative advantages of the three approaches to estimating costs;
- The limitations of adding up the costs of different tax reliefs;
- The approaches used in OECD countries;
- Conclusions to be drawn.

5.2 Choice between the revenue foregone method, the revenue gain method, and the outlay equivalent method.

5.2.1 There are three different approaches to the measurement of tax expenditures:

- *The revenue foregone approach.* This estimates the amount by which taxpayers are currently reducing their tax payments as result of the relief, assuming no behavioural change.
- *The revenue gain approach.* This estimates the additional revenue that would be collected if the relief were removed, taking account of behavioural change.
- *The outlay equivalent approach.* This estimates the government cash outlay that would be needed in an expenditure programme that replaced the tax relief and gave the same benefit to taxpayers as the relief, assuming no behavioural change.

5.2.2 The key differences between these three approaches are:

- Revenue foregone and revenue gain both attempt to estimate the additional tax revenue that would result from removing the relief. The difference is that the second allows for behavioural change and the first does not.

- Revenue foregone and outlay equivalent both assume no behavioural change. The differences are that the outlay equivalent has to take account of the extent to which the payments to taxpayers will themselves be subject to tax. It therefore grosses up the payments to allow for any additional tax liability.

5.2.3 Taking account of behavioural change is important as the taxpayer could well respond to the removal of one relief by making greater use of another relief. For example, there is anecdotal evidence that the introduction of a cap on the relief for pension contributions appears has increased interest in venture capital trust reliefs ('Hopes rise for increased investment via VCTs', Financial Times, April 7/April 8 2012, p.7), reducing the revenue gain from introducing the cap. So, the revenue foregone and outlay equivalent approaches, which ignore behavioural effects like this, could significantly misestimate the revenue effects of removing a relief. In principle, the revenue gain approach is superior. The problem is that, in most cases, it is very difficult to estimate the size of any behavioural change that will result from altering tax reliefs.

5.2.4 The choice between estimating the revenue foregone and estimating the cost of an equivalent outlay programme is also important. The advantage of the outlay equivalent approach is that it allows a fair comparison of the costs of a tax expenditure with the cost of outlay programmes, although it will not capture the advantages of outlay programmes such as greater budgetary control.

5.2.5 It should be noted that there will only be a difference in the two approaches if the payments of the equivalent outlay programme will be taxed in the hands of the recipients, something that differs across programmes. A more important point is that, in most cases, it is practically impossible to design an outlay programme that is exactly equivalent to a tax expenditure in terms of its effects on each individual taxpayer. There are two reasons for this:

1. In an income tax with a progressive rate structure, tax deductions or exemptions of equal nominal value will be worth more to a taxpayer subject to a higher marginal rate, - a distributional effect that would only be possible for an outlay programme to achieve if the body administering the programme knew each person's marginal tax rate. Of course, it could be easily argued that this is a feature of the tax expenditure that one would not wish to replicate in an outlay programme, but then the outlay programme would not be exactly the same as the tax expenditure it replaces.
2. If the payments from an outlay programme are taxed in the hands of the recipient, they will be worth less to taxpayers subject to a higher marginal rate, and an argument similar to point 1 applies. Note that these two effects would not cancel out - they would reinforce each other.

These points substantially reduce the practical attractiveness of the outlay equivalent approach.

5.3 The limitations of adding up the costs of different tax reliefs

5.3.1 The calculation of the costs of tax reliefs are normally done separately: for each tax relief, it is assumed that all the other tax reliefs remain unchanged. This is a perfectly reasonable approach, as policy analysis will normally examine one relief at a time. However, it has the consequence that adding up all the individual costs will not result in a figure that represents the total cost of all tax reliefs. Behavioural responses could result in tax yield increasing by more or less than the sum of the estimated values of the reliefs.

5.3.2 This is because there are various types of interdependency between tax reliefs. These include:

1. For exemptions and deductions, the removal of the relief will move the taxpayer nearer to, or even over, the threshold for the next higher rate of tax (if there is one) in a progressive rate tax structure. This means that the removal of a second or subsequent relief will be more likely to be taxed (wholly or partly) at a higher rate of tax, increasing the cost of the relief. Thus, the actual cost of a group of reliefs could well exceed the sum of their individual costs (calculated on the assumption that no other reliefs had been removed).
2. Behavioural effects can also produce interdependency, as in the example of pensions and venture capital trusts, referred to above. Removing one or other of them might have a relatively small effect on revenue if many taxpayers substitute into the other. But removal of the two together could result in a revenue gain substantially larger than the sum of the gains from their individual removal.
3. The removal of one tax relief will reduce taxpayer incomes and this might reduce the amount that they spend on tax preferred activities, thus reducing the gain from removing the remaining reliefs. In this case, the removal of a group of tax reliefs could gain less revenue from the sum of the gains from their individual removal.
4. The removal of one relief, such as the zero-rating of children's clothing, could encourage taxpayers, in this case parents, to work more and thus increase the cost of the tax relief on their pension contributions.

5.3.3 Altshuler and Dietz (2008) report that studies in the US, using the revenue foregone approach, find that there can be substantial differences between the sum of the individual costs and the combined cost of a group of tax reliefs. These ranged from the sum of the individual costs being 25 percent higher than the combined cost to the combined cost being 2 percent higher than the sum of individual costs, depending on the particular group of tax reliefs considered. Data on actual consequences is limited.

5.3.4 This suggests that the error in simple addition of cost estimates can be important but that its size and sign is unpredictable. It suggests that, at least in cases where strong interdependency is likely, it would be worthwhile to estimate the revenue effects of the simultaneous removal of a group of tax reliefs, in addition to the standard estimates based on individual removal.

5.3.5 Also, any adding of tax reliefs should avoid adding together positive and negative tax expenditures because the negative tax expenditures will counterbalance the positive tax expenditures, resulting in a misleadingly low estimate of the extent to which tax expenditures are used.

5.3.6 A related limitation of looking at reliefs on an individual basis is that the removal of some reliefs could result in increased outlay expenditures. For example, the removal of tax credits that benefit low-income households could increase the eligibility for social benefits such as Housing Benefit.

5.4 The approaches used in OECD countries

5.4.1 All OECD countries for which information is available make their regular tax expenditure reports based on the revenue foregone approach (OECD, 2010b). However, Australia has experimented with the revenue gain approach.

5.4.2 This general pattern could be because of:

- The lack of accurate estimates of likely behavioural change;
- The fact that the outlay equivalent approach is not seen as so relevant as a revenue loss measure;
- The difficulties, discussed in section 5.2, of finding a precisely equivalent outlay programme.

5.4.3 Many countries sum their tax expenditures, despite recognising the limitations of doing so, to provide an order of magnitude of their total costs.

5.5 Conclusions on the approaches to measurement

5.5.1 The difficulties with the outlay equivalent approach mean that we are unable to recommend its use. This leaves the revenue foregone and revenue gain approaches, where the difference lies in the assumptions about behaviour.

5.5.2 In view of the importance of behavioural responses and the interaction between different reliefs, but recognising the difficulty of estimating precisely, we recommend that:

- The revenue foregone be used for all tax reliefs;
- This be supplemented with estimates of revenue gain, where there is sufficient behavioural evidence;
- Efforts be made to increase the knowledge of behavioural effects, allowing wider use of the revenue gain method;
- The costs of tax expenditures only be added together to produce an order of magnitude figure that is clearly labelled as such;
- Negative tax expenditures never be added to positive tax expenditures;
- The costs of groups of reliefs should be estimated additionally, based on the simultaneous removal of the whole group, where interaction is expected to be substantial.
- Any effects of tax expenditures on the amount of outlay expenditure should be taken into account.

Section 6

The Mechanics of How the Calculations are Made

6.1 Introduction

6.1.1 The state of the art of estimating the revenue effects of tax reliefs is composed of two parts:

- For direct taxes – income taxes, social security contributions and property taxes – the estimates are obtained from micro-simulation models based on data from a representative sample of taxpayers.
- For consumption taxes, the estimates are based on national accounts data and/or household expenditure data on the consumption of tax-preferred items.

6.1.2 This section briefly discusses each of these and then considers the possibility of constructing a more complete behavioural model of the effects of tax reliefs, based on a computable general equilibrium (CGE) model. It ends with a brief conclusion.

6.2 Micro-simulation models

6.2.1 These models are based on a representative sample of taxpayers (both personal and corporate), and the model applies the tax law to the data for each of the sampled taxpayers, to calculate their tax liabilities. The results are then scaled up to represent results for the whole population. Probably the best known model of this type is the model that the Institute for Fiscal Studies (IFS) uses to analyse the impact of tax changes on government revenues and income distribution.

6.2.2 The impact on revenue of removing one or several tax reliefs can be obtained by running the model without the tax relief(s), running it again with the tax relief(s), and comparing the results.

6.2.3 These models typically do not embody behavioural responses and so can only estimate the revenue foregone. However, it is possible to extend them to include some simple behavioural responses and, if the most important behavioural responses to removing a tax relief are incorporated, this could allow estimation of the revenue gain.

6.3 Using consumption data

6.3.1 This is straightforward if the aim is to estimate the revenue foregone for a reduced rate:

- For VAT reliefs, the (pre-tax) value of consumption of a tax-preferred item is multiplied by the size of the rate reduction.
- For items that are VAT-exempt, the calculation is more complex because the suppliers are unable to deduct VAT on their purchases of inputs. The calculation requires the use of input-output (sometimes referred to as consumption-use) tables in order to estimate the VAT that will have been paid on these inputs.
- For excise reliefs on goods, the approach is basically the same as with VAT reliefs. However, this has to be modified to take account of the fact that excises are usually levied fully or partly on the quantity of the good rather than its value.

6.3.2 This simpler approach – avoiding the use of a micro-simulation model - is possible because, unlike direct taxes, the rates of consumption taxes differ across goods but not individuals. Exceptions to this are certain excise duty reliefs that target specific users, such as agricultural users of diesel. To calculate the revenue foregone on these, it is necessary to obtain data on the quantity consumed by the favoured users.

6.3.3 Simple behavioural responses can be included to allow the estimation of the revenue gain but, as with the micro-simulation models, these are typically very limited.

6.3.4 In principle, the consumption tax reliefs could be combined with the direct tax reliefs in a computable general equilibrium (CGE) model, but more work is needed to make it possible

6.4 The possibilities of CGE modelling

6.4.1 In principle, computable general equilibrium (CGE) models could be used to capture the full range of behavioural responses to the removal of tax reliefs and to combine the estimates for direct taxes and consumption taxes. This can be seen as the logical extension of the micro-simulation models to include both consumption taxes and a full set of behavioural effects.

6.4.2 These CGE models represent the interactions between profit-maximising firms, rational consumers, international trade opportunities, and the government's tax and spending plans. In addition to their ability to model interactions between different economic changes, they are valued by the consistency that they impose on the actions of the various economic agents, ensuring, for example, that consumers' reactions to tax changes are consistent with what they can afford. This is something that cannot be imposed by a series of separate behavioural models.

6.4.3 CGE models have been used with particular success in modelling the effects of international trade on economies, but they have also been used to some extent in the analysis of tax policies, and HMRC maintains a CGE model that reflects the main elements of the UK tax system.

6.4.4 There are two main difficulties with using CGE models:

- It is difficult to obtain estimates of all the behavioural responses that the models require;
- It is difficult to capture the full complexity of the tax system in a realistic model of the economy without creating a model that is too complicated to estimate.

6.4.5 The difficulty of estimating behavioural responses was referred to in section 5.3 but becomes even greater with a CGE model because the effects of the removal of a tax relief on *all* economic decisions of a taxpayer need to be included in the model.

6.4.6 The difficulty in capturing the full complexity of the tax system is that all tax-oriented CGE models – including the HMRC model – incorporate a highly simplified version of the tax system. For example, they are typically unable to capture the full detail of the progressive marginal rate structure of the personal income tax, let alone the main tax reliefs. This is not because it is impossible to do but because:

- A realistic representation of the UK personal income tax would require very detailed taxpayer data and a complex computer programme, which would become even more complex as other features of the tax system are included.
- This would require very substantial programming and computer resources.
- It would also be very difficult to keep updated as the tax system changes.
- It would become difficult to fully understand the results of so complex a model.

6.4.7 This is not to say that the development of a CGE model to cost tax expenditures is out of the question. Some complexity could be reduced by simplifying features of the model that are unlikely to significantly affect the results. For example, many simple tax-oriented CGE model make very strong simplifying assumptions about the structure of production, because there are good theoretical reasons for supposing that details of the production structure are likely to be relatively unimportant. However, it would be unrealistic to imagine the development of a suitable CGE model for costing tax reliefs within the next five or ten years, partly because of complexity and partly because of the need for greater computer power.

6.5 Conclusions on the mechanics of calculation

6.5.1 The current methods of undertaking the calculations of the costs of tax reliefs are reasonable for calculating the revenue foregone.

6.5.2 They can be extended to include simple behavioural responses where estimates of their likely size are available. This will allow estimates of the revenue gain.

6.5.3 A more thoroughgoing modelling of the full behavioural responses must wait until the development of more sophisticated computable general equilibrium models and a fuller understanding of the impact of the factors that influence these responses.

Section 7

The Proposed Costing Model

7.1 Proposed Model

7.1.1 The analysis in this part suggests the following model for estimating the direct and indirect costs of a relief:

1. Use the revenue foregone method to estimate the direct cost – excluding behavioural (or indirect) effects that could affect the costs of other (section 5.5).
2. Use micro-simulation models to estimate the revenue foregone from tax reliefs that apply to personal and corporate direct taxes (section 6.2).
3. Use consumption data methods to estimate the revenue foregone from tax reliefs that apply to consumption taxes (section 6.3).
4. Use the revenue gain method to include the indirect costs whenever estimates of likely behavioural effects are available (section 5.5).
5. Efforts should be made to increase knowledge of likely behavioural effects and so increase the ability to make accurate estimates of the revenue gain/loss (section 5.5). Given the difficulties in estimating these effects, sensitivity analysis should be used to obtain a range of possible values.
6. In the longer term, the possibilities of using computable general equilibrium models to trace the indirect effects should be investigated (section 6.4).

PART 3

Evaluating Individual Tax Reliefs and the Tax Relief System in the UK

Summary

This package is intended to propose how we should evaluate the effectiveness and value for money of individual tax reliefs. The deliverables are: (a) to identify criteria for the evaluation of a relief and construct a methodology for evaluation; (b) to apply the methodology to test the desirability of specific reliefs.

In the first part of this report, we put in place the economic foundation for evaluating outcomes of a tax relief. This foundation consists of an overview of the concepts of economic efficiency, equity, and social desirability as the economic rationale for government intervention; the relationship between these economic criteria, policy objectives and relief targets; and a discussion of the equivalence between direct spending and tax reliefs.

Once the foundation is in place, we can specify the evaluation frame. This consists of answering two fundamental questions: (i) What is the desirability of the incentive implied by the policy objective? (ii) If the implied incentive is desirable, then is it best delivered as a tax relief or as a direct transfer? We then set out a possible methodological approach for evaluating individual reliefs. This approach encompasses evaluation of how well the reliefs' objectives are achieved; and whether or not the reliefs are cost-effective for government.

Section 7

Criteria and Assessment

7.1 Economic Criteria

7.1.1 A “perfect” system of tax reliefs would be economically efficient, equitable, and aligned with society’s goals.

7.1.2 An efficient outcome is one where it is impossible to reallocate resources so that at least one person is better off without harming someone else. This corresponds to the simple idea that resources should not be needlessly wasted. In other words, if there is another way of achieving the same goal at a lower resource cost, or if the same resources could be stretched to achieve additional goals, then not exploiting such opportunities would be wasteful. Economics is well-equipped to define and measure efficiency precisely, conditional on the available information.

7.1.3 Equity refers to the idea of distributional justice, which does not necessarily mean equality. This is a normative concept that is defined by the values of a society or a certain group in society. Economics is not well-equipped to define what equity is, although it can, conditional on the available information, precisely measure outcomes in terms of their equity characteristics on a basis of a given definition of what equity is.

7.1.4 Outcomes that are aligned with society’s goals are those that are deemed to satisfy societal values, and/or that are deemed to be worthy/deserving from the point of view of society as expressed through the political process.

7.1.5 Policies, however, can never be perfect. Constraints (on resources and/or policies themselves) imply that there typically are trade-offs between the objectives of economic efficiency, equity, and societal goals. This means that some appropriate balance between them needs to be achieved.

7.2 Targets, Policy Objectives and Economic Criteria

7.2.1 The reliefs can be targeted to:

- (i) Actions of taxpayers. These are activities that taxpayers undertake (for example, whether they use their money for consumption, savings, or charitable donations), and/or activities that they have undertaken in the past (the taxpayer’s history).

- (ii) Characteristics of taxpayers. These can be the age or the number of dependent children for an individual, or the size for a business entity.
- (ii) A combination of actions and characteristics of taxpayers. For example, reliefs on certain kinds of expenses are restricted to individuals with certain characteristics.

7.2.2 Tax reliefs are used to achieve policy objectives and should be targeted with these objectives in mind. Different targets are best suited to different objectives.

- (i) Targeting to actions of taxpayers is typically best suited to the pursuit of efficiency or societal values.
- (ii) Targeting to characteristics of taxpayers is typically best suited to the pursuit of equity objectives.
- (iii) Targeting to a combination of actions and characteristics of taxpayers may be required in order to strike a balance between efficiency and equity objectives.

7.2.3 One important consideration is that tax reliefs can only be based on actions or characteristics that are observable. This may seriously limit the pursuit of economic objectives; e.g. efficiency or equity may require targeting on the basis of a certain characteristic(s) or action(s), but such targeting is not possible if the relevant action(s) or characteristic(s) cannot be observed.

7.3 Subsidies Versus Reliefs

7.3.1 Tax reliefs generate both direct effects, that is, a direct reduction in revenue due to the application of the relief on a certain activity – and indirect effects that flow through agents' responses, that is, further effects on revenue from the change in the level of the targeted activity in response to the application of the relief, and from the changes in related activities.

7.3.2 One characteristic that is commonly attributed to tax reliefs is that, both in terms of their direct and indirect effects, they are substitutes for direct payments, or subsidies, albeit not always perfect substitutes.

7.3.3 In the case of income tax, from an economic point of view – and with a given policy objective in mind – for every income tax relief we can (usually) find an equivalent subsidy that should produce the same outcome. For example, incentives for book reading can be delivered at point of sale (subsidy on price of books) or as an income tax based allowance for book purchases; Gift Aid has both subsidy (in the form of a match) and an income tax allowance component.

7.3.4 If a specific tax relief lends itself to an equivalent subsidy, then both would affect private agents' economic incentives in the same way as they both produce the same indirect

effects, and they both result in a direct reduction in net tax revenues (tax revenues net of the costs of subsidies paid).

7.3.5 This notion of equivalence between tax reliefs and subsidies is very important (and often not fully understood), as it allows framing the question of evaluating tax reliefs more precisely. We discuss this in the next section.

7.4 Questions to be Answered

7.4.1 The economic equivalence between reliefs and subsidies means that we can frame the evaluation of tax reliefs in terms of addressing the following questions:

- (i) What is the desirability of the incentive implied by the relief and/or subsidy in terms of the given policy objectives?
- (ii) If the implied incentive is desirable, then is the best choice of instrument for delivery of the incentive a tax relief or a subsidy?
- (iii) If the implied incentive is best delivered as a tax relief, then what is the best form for the relief (e.g. match, exemption, credit, rate reduction, administrative concession)?
- (iv) Given the chosen form of the relief, what value of the relief is required to achieve the desired behavioural outcome or to achieve the equivalent level of administrative saving?

7.4.2 Questions 7.4.1 (i) and 7.4.1 (ii) are, broadly speaking, independent from each other. However, they cannot always be separated: there is evidence that in some cases reliefs and subsidies that are nominally equivalent can generate different incentives.

7.4.3 The answer to 7.4.1 (ii), concerning the choice between a relief and a subsidy, might depend on the policy objectives and on the constraints that affect reliefs and subsidies. For example, a hypothetical policy objective of encouraging people below a certain income threshold to buy books – an incentive that requires knowledge of people’s income – may be more easily pursued through an income tax relief than through a subsidy, as the latter would require buyers to produce proof of income at point of sale.

7.4.4 The answer to 7.4.1 (iii) and (iv), concerning the form and the value of the relief, might depend upon the way the tax system is administered. In the USA, for example, all taxpayers with income above a certain level must file a tax return, which means that the IRS can collect more information on taxpayers’ activities. Thus, with reference to the above example, in the USA system it would be feasible to administer relief on books as an itemised deduction from gross income backed up by purchase receipts. In the UK, on the other hand, simplification of

income tax administration through PAYE acts as a constraint on the way income tax relief can be used to achieve the maximum level of conditioning on characteristics.

7.4.5 The process by which question 7.4.1 (i), concerning the evaluation of the efficiency effects and distributional implications of a tax relief versus subsidy or a relief introduced for administrative ease can be conducted is described below. The methodology is standard.

- (i) The starting point must be an empirical investigation of individual responses to the tax relief and to the corresponding subsidy based on available data (e.g. administrative data) and on other forms of evidence (e.g. lab experiments). This can unveil not only how individuals react to the policy change “on average” but also how their reactions depend upon their characteristics.
- (ii) On the basis of the evidence on individual responses obtained in 7.4.5(i), one can then carry out traditional cost-benefit analysis and distributional analysis of the effects of the tax relief and of the corresponding subsidy, or extended versions of cost-benefit analysis (e.g., micro-simulations or Computable General Equilibrium (CGE) modelling). This type of analysis can fully account for individual and aggregate responses, providing projections of responses and effects on private economic activity and estimates of revenue and spending implications for the Treasury.
- (i) The approaches outlined in (i) and (ii) are complementary to one another: any conclusions obtained in (i) can only be accurate if they are based on reliable evidence about individual responses; conversely, findings from (ii) about the sensitivity of the results to changes in the underlying parameters, can guide researchers working on issues relevant to (i) in identifying which particular pieces of evidence are crucial for assessing the policy.

7.4.6 The process by which questions 7.4.1(ii) and 7.4.1(iii), concerning the evaluation of the choice of instrument and the form of the chosen instrument, can be analysed must take into consideration a number of factors:

- (i) Administrative Costs for the Treasury and Taxpayers’ Compliance Costs: Compliance costs for individuals can be substantial, and must be properly accounted for in any assessment of tax policies. Such costs include time costs: for example, an additional ten minutes of time devoted by each taxpayer to comply with a new rule, even when evaluated conservatively, would generate an additional compliance cost of several million pounds (there are currently roughly thirty million income tax payers in the UK; very conservatively valuing time at the level of the minimum wage, say £6.31, yields a total cost in excess of £30 million).

Budgetary pressures may make it tempting for the Treasury to shift administration costs from itself to taxpayers; but from an economic standpoint any system that reduces direct administrative costs for the Treasury at the cost of a greater increase in

private compliance costs is inefficient. It should be noted, however, that implementing a system saving taxpayer costs in return for a lesser increase in customer burden, or vice versa, is desirable from the efficiency viewpoint.

Thus, if thirty million people have to spend 10 minutes doing a box ticking exercise for an income tax relief but not for a subsidy, and leaving other considerations aside, then taking into account administrative and compliance costs would lead to the conclusion that the subsidy is the preferred instrument. Not counting private compliance costs gives the 'wrong' answer.

- (ii) **Tax Evasion and Tax Avoidance:** The categorisation of eligibility and the specific rules invoked to achieve such categorisation generate opportunities for tax evasion and for tax avoidance. Specifically, rules that are difficult to verify and monitor encourage tax evasion; provisions that are vague leave room for discretion in their interpretation, and do not fully account for the opportunities they create for individuals to adapt their behaviour so as to lawfully reduce their tax liabilities. Designing rules that minimise opportunities for evasion and avoidance requires a direct dialogue between economists and tax law specialists during the design phase as well as in subsequent review.
- (iii) **Differential Behavioural Responses to Different Instruments:** The differential framing of incentives implied by different instruments means that instruments that are theoretically equivalent can generate differential behavioural responses because of the way individuals perceive them or because of the ability and time individuals have in fully processing their implications. This point will be elaborated on more fully below, where we discuss experimental evidence that suggest that equivalent matching incentives and tax rebates have differential behavioural effects.

7.4.7 It is equally important to take into consideration the proportionality of the cost of evaluation against the cost, benefit and risk of a relief. The procedure outlined in 7.4.5 (i) and (ii) may involve costly collection of data, facilities for running experiments, computing power and time for simulations, especially for the CGE applications, as outlined in 6.4 of this document.

7.5 Ex-Ante Evaluation of a New Tax Measure

7.5.1 A comprehensive ex ante evaluation of a new tax measure (including a new tax relief) would need to involve the following complementary teams working alongside the internal evaluation team:

- (i) *Policy Team.* Academic economists and academic tax specialists whose job is to interact with government in order to obtain clarity about the policy objective of a

particular tax measure. The team would translate the policy objective as it is given to them by policymakers into specific parameters for the Assessment Team (see below). It could also provide feedback to government about possible implications of the policy objective for issues surrounding its implied incentives. In particular, it could flag possible unintended consequences that policymakers have not considered.

- (ii) *Assessment Team*. Applied economists and tax specialists whose job is to use the information about the policy objective provided by the Policy Team for the evaluation of the tax measure by the means of an appropriate methodology. This can include partial and general equilibrium cost-benefit/incidence analysis, standard tools of econometrics and tools of the behavioural science, and lab and field experiments.
- (iii) *Simulation Team*: Applied economists whose job would be to incorporate the findings of the Assessment Team into computational models and carry out numerical analysis concerning distributional/efficiency/welfare effects. A comprehensive analysis, in principle, can be conducted using micro-simulations or a CGE-type model. However, technical challenges and cost considerations, as outlined in 6.4, may require implementation of simpler methods, perhaps, at a smaller cost of accuracy.
- (iii) *Detail Team*: Academic economists and tax law specialists. This unit would be tasked with translating insights obtained from the Assessment and the Simulation Teams into implications for the detailed design of tax rules and with ensuring that such details minimise the scope for evasion and avoidance.

7.5.2 All of the suggestions above link to, supplement, and strengthen, current evaluations undertaken through the Tax Impact Information Note process.

7.5.3 Evaluation of any one particular tax measure might not need all of the machinery. For example, general equilibrium linkages will be more important for the evaluation of certain kinds of tax measures and less so for others. It may also seem that broadening the analysis to encompass alternative instruments that are not tax reliefs is exceeding the mandate of the evaluation of a tax relief. But not doing so means introducing an artificial and narrow box that might prevent consideration and comparison with simpler and superior alternatives, availability of which might crucially alter conclusions about any particular relief.

7.6 Evaluation over the Lifecycle of a Tax Measure

7.6.1 The same sequence outlined with respect to the ex-ante evaluation process could be applied to ex-post assessment if the ex-post assessment is occurring for the first time during the life cycle of the tax measure, rather than as a follow up to a prior ex-ante assessment.

7.6.2 On the other hand, if a new tax measure is introduced, then an ex-post assessment could be improved at the ex-ante stage. With appropriate planning, it would be possible to

obtain pre- and post-implementation measurements (empirical and behavioural) for a common sample. For this, certain relevant pieces of information could be collected from a sample of taxpayers before the tax measure is introduced and, again from the same sample of taxpayers, after the measure is introduced, making it possible for analysts to track responses to the new policy and to determine whether or not the policy is achieving its objectives, and whether the actual responses are in line with the responses predicted by the ex-ante analysis. The implementation of a tax measure amounts to what economists think of as a large-scale “natural experiment” that allows understanding of the relationship between cause and effect. But this is only possible if enough care has been taken in collecting pre- and post-measurements for a common sample.

7.6.3 Some of these measurements might come naturally from tax data (which is confidential but can be fully anonymised). However, tax data that is routinely available might need to be supplemented with additional measurement on other dimensions taken before and after the change in order to improve identification of the effects of the implied incentive and overall success of achieving the objective.

7.6.4 A modern and well-run policy design/implementation/evaluation cycle needs to have these measurement features built in.

7.7 The Role of Independent Research

7.7.1 The OECD “Best Practice Guidelines for Evaluation” (OECD, 1998) advise on using external evaluation and independent evaluation, alongside the self-evaluation, or the internal evaluation, when appropriate. In particular, an external evaluation should be used when the objective of the evaluation is to obtain a new look on government policies or when there is a need for specialized expertise. On the other hand, an independent evaluation should be used when the objectives of evaluation are improved accountability and transparency. The limitations of the external and of the independent evaluation are (i) insufficient understanding of the substance of the policy leading to “theoretical evaluation”, and (ii) reluctance of the policy managers to accept the findings and recommendations.

7.7.2 In line with the OECD recommendations, it is advisable for the evaluation of tax measures and, in particular, tax reliefs, to use independent resources such as academics as both external and independent evaluators. This will allow increasing capacity, by bringing in specialized skills, and achieving greater transparency. In particular, for greater transparency there should be a robust reporting of information on tax reliefs enabling external and independent researchers to identify areas of concern in the form of policy measures in need of review, and a wider release of the (appropriately anonymised) tax data held by government for the use in research and policy evaluations.

7.7.3 An example of the government-funded tax expenditure evaluation research is the work by Caiumi (2011) on the assessment of the regional tax incentives for business investments in Italy. Financial support for this research was provided by the Italian Government through the “Alessandro Di Battista” research Fellowship during the author’s secondment at the Centre for Tax Policy and Administration (CTPA), OECD, Paris. This research project identified the benefits of the investment incentive scheme as well as its limits in achieving policy objectives.

7.8 International practice

7.8.1 An example of international practice is the comprehensive guide on evaluation of tax expenditures by US GAO (2013). In particular, the guide provides a list of five questions for the assessment of the effectiveness of tax expenditures, with further detailed breakdown of each question: (1) What is the tax expenditure’s purpose and is it being achieved? (2) Even if its purpose is achieved, is the tax expenditure good policy? (3) How does the tax expenditure related to other federal programmes? (4) What are the consequences for the federal budget of the tax expenditure? (5) How should evaluation of the tax expenditure be managed?

7.8.2 The latter question refers to the procedure of evaluation and is further detailed as the following: (i) What agency or agencies should evaluate the tax expenditure? (ii) When should the tax expenditure be evaluated? (iii) What data are needed for evaluation of the tax expenditure?

7.8.3 The US GAO recommendations on (i) and (ii) are summarized in section 3.8.3. On (iii) the guide notes that “existing IRS data may not be sufficient for evaluating the efficiency, equity, and other effects of a tax expenditure”, since “to minimize its workload and the burden on taxpayers, IRS collects only the information needed to know the correct amount of taxes owed, unless it is legislatively mandated to collect additional information.” The document refers to a separate guide on “Designing Evaluations” for general information on collecting data for evaluation, and recommends weighing the cost of collecting and analysing information against the priorities of tax administration.

PART 4

Summary of Proposals

Summary

Part 4 provides a summary of the key observations and proposals from parts 1 - 3.

Section 8

Summary

8.1 Key Observations

8.1.1 Tax expenditures should be distinguished from tax reliefs. The two concepts overlap but not all tax reliefs are tax expenditures.

8.1.2 A tax expenditure should be defined as a provision in tax rules and not through a comparison with a normative tax system. A definition built upon this perspective has been proposed. The definition captures the defining characteristics of a tax expenditure.

8.1.3 For reasons of public accountability reporting, tax expenditures should be categorised by budget category accompanied by policy objective and the type of taxpayer benefitting from the relief.

8.1.4 For the purposes of evaluating a tax expenditure, all seven of the categorisations provided should be used. To prioritise evaluation, size (cost) and risk should be the key determinants.

8.1.5 The revenue foregone method should be used to estimate the direct cost of a tax expenditure excluding behavioural (or indirect) effects that could affect the costs of other tax expenditures. This should be supplemented by the revenue gain method to include the indirect costs whenever estimates of likely behavioural effects are available. Given the difficulties in estimating these effects, sensitivity analysis should be used to obtain a range of possible values.

8.1.6 Micro-simulation models should be used to estimate the revenue foregone from tax expenditures that apply to personal and corporate direct taxes and methods involving consumption data should be used to estimate the revenue foregone from tax expenditures that apply to consumption taxes.

8.1.7 Efforts should be made to increase knowledge of likely behavioural effects and so increase the ability to make accurate estimates of the revenue gain/loss. In the longer term, the possibilities of using computable general equilibrium models to trace the indirect effects should be investigated.

8.1.8 A comprehensive procedure for the economic evaluation of tax expenditures requires a multi-pronged approach, combining (i) economic theory as well as historical context – to identify the evolution and role of a tax relief measure in relation to policy objectives and in

comparison with alternative instruments; (ii) empirical evidence – to measure the behavioural responses that are crucial for a quantitative evaluation of the effects of the relief; (iii) simulation/accounting methods based on both theory and evidence – to generate estimates and projections of effects of the relief; and (iv) a legal-economic analysis of the formal rules through which the relief is delivered – to identify specific problems of implementation in relation to administrative and compliance costs, and opportunities for abuse.

8.1.9 The availability of disaggregated data (duly anonymised) is crucial for such an evaluation, and it is particularly valuable for estimation purposes if it can span both the pre- and post-implementation periods of the expenditure of interest. A modern policy design/implementation/evaluation cycle requires that such information be routinely collected, well before a specific request for evaluation/assessment is made.

Appendix A: International Definitions

Australia (Tax Expenditure Statement 2012, p. 13) A tax expenditure is a provision of the tax law that provides a benefit to a specified activity or class of taxpayer that is concessional when compared to the 'standard' tax treatment that would apply. A negative tax expenditure arises when arrangements impose an additional charge rather than a benefit. Tax expenditures can be provided in many forms, including tax exemptions, tax deductions, tax offsets, concessional tax rates or deferrals of tax liability.

Canada (Tax Expenditures and Evaluations 2011, p. 9) "The principal function of the tax system is to raise the revenues necessary to fund government expenditures. The tax system can also be used directly to achieve public policy objectives through the application of special measures such as low tax rates, exemptions, deductions, deferrals and credits. These measures are often described as "tax expenditures" because they achieve policy objectives at the cost of lower tax revenue. To identify and estimate tax expenditures, it is necessary to establish a "benchmark" tax structure that applies the relevant tax rates to a broadly defined tax base—e.g. personal income, business income or consumption. Tax expenditures are then defined as deviations from this benchmark."

The definition is supported by a detailed statement in Department of Finance, Canada (2010). In that reference the personal income tax and the corporate income tax the benchmark structure is defined as:

Personal Income Tax

- Current tax rates and income brackets, as adjusted for inflation, are taken as given;
- The tax unit is the individual;
- Taxation is imposed on a calendar year basis;
- Income is defined in nominal rather than inflation-adjusted terms; and
- Structural measures that reduce or eliminate double taxation and improve the fairness of imposing taxes on a calendar-year basis are included.

Corporate Income Tax

- The current general tax rate is taken as given;
- The tax unit is the corporation;
- Taxation is imposed on a fiscal year basis;
- Income is defined in nominal rather than inflation-adjusted terms;
- Structural measures that reduce or eliminate double taxation, recognize expenses incurred to earn income and improve the fairness of imposing taxes on a fiscal-year basis are included; and
- The constitutional immunity of Canada and the provinces from taxation is recognized.

United States (US GAO, 2013), Tax expenditures are reductions in a taxpayer's tax liability that are the result of special exemptions and exclusions from taxation, deductions, credits, deferrals of tax liability, or preferential tax rates. (p.1)...Tax expenditures are tax provisions that are exceptions to the "normal structure" of individual and corporate income tax necessary to collect federal revenue. (p.3) (This is followed by a table with separate definitions of exclusion, exemption, deduction, credit, preferential tax rate, and deferral.)

US Congressional Budget and Impoundment Act of 1974 ("Budget Act"): Revenue losses attributable to provisions of Federal income tax laws which allow a special exclusion, exemption, or deduction from gross income or which provide a special credit, a preferential rate of tax, or a deferral of tax liability. (Quoted in Altschuler and Dietz, 2008.)

US Joint Committee on Taxation (2013)

Tax expenditures are defined under the Congressional Budget and Impoundment Control Act of 1974 (the "Budget Act") as "revenue losses attributable to provisions of the Federal tax laws which allow a special exclusion, exemption, or deduction from gross income or which provide a special credit, a preferential rate of tax, or a deferral of tax liability." Thus, tax expenditures include any reductions in income tax liabilities that result from special tax provisions or regulations that provide tax benefits to particular taxpayers.

Special income tax provisions are referred to as tax expenditures because they may be considered to be analogous to direct outlay programs, and the two can be considered as alternative means of accomplishing similar budget policy objectives. Tax expenditures are similar to those direct spending programs that are available as entitlements to those who meet the statutory criteria established for the programs. (p.2)

Under the Joint Committee staff methodology, the normal structure of the individual income tax includes the following major components: one personal exemption for each taxpayer and one for each dependent, the standard deduction, the existing tax rate schedule, and deductions for investment and employee business expenses. Most other tax benefits to individual taxpayers are classified as exceptions to normal income tax law. (p.3)

IMF "The Manual on Fiscal Transparency provides a narrow definition of tax expenditures as 'revenues foregone as a result of selective provisions in the tax code' (IMF, 2007, p. 64) and lists examples such as exemptions from the tax base, allowances deducted from gross income, tax credits deducted from tax liability, tax rate reductions and tax deferrals, while the Manual on the Role of the Legislature in the Budget Process emphasises that tax expenditures are second best practice for delivering programmes but where used, should be reported as part of the normal budget cycle." (Lienert, 2010, p. 13)

IMF (2007) "Tax expenditures are revenues foregone as a result of selective provisions in the tax code. They may include exemptions from the tax base, allowances deducted from gross income, tax credits deducted from tax liability, tax rate reductions, and tax deferrals (such as accelerated depreciation). Tax expenditures are often used in place of explicit expenditure

programs. They can also be targeted to specific types of spending or to specific categories of individuals, families, or firms according to their wealth, income, or spending patterns or other characteristics. In many tax systems, tax expenditures can be significant relative to the total tax revenue. An important difference compared with expenditure programs is that tax expenditures do not require formal annual approval by the legislature (though some may be subject to sunset clauses); they remain in effect as long as the tax law is unchanged, and are therefore not subject to the same regular degree of scrutiny as actual expenditure. A proliferation of tax expenditures can therefore result in a serious loss of transparency.” (p. 64)

“Tax expenditures: Concessions or exemptions from a “normal” tax structure that reduce government revenue collection and that, because the government policy objectives could be achieved alternatively through a subsidy or other direct outlays, are regarded as equivalent to a budget expenditure. Precise definition and estimation of tax expenditures thus require definition of the normal base as well as determination of the most appropriate way of assessing costs.” (p. 115)

OECD (2003) “The basic idea of a tax relief is straightforward: it is a provision in a country’s tax law that reduces the tax payable for some or all taxpayers. Examples of tax reliefs include:

- Exemptions: income excluded from the tax base.
- Allowances: amounts deducted from gross income to arrive at taxable income.
- Credits: amounts deducted from tax liability.
- Rate relief: a reduced rate of tax applied to a class of taxpayers or activities.
- Tax deferral: a relief which takes the form of a delay in paying tax.

From the point of view of the disposable income of the taxpayer, many tax reliefs are equivalent to a transfer of resources by direct government expenditure. They are, therefore, sometimes referred to as tax expenditures. However, the concept of tax expenditures only includes tax reliefs that are not included in a “benchmark”, or standard, tax system.”

OECD (2010a) Tax expenditures are “provisions of tax law, regulation or practices that reduce or postpone revenue for a comparatively narrow population of taxpayers relative to a benchmark tax” (Anderson, 2008). For government, a tax expenditure is a loss in revenue; for a taxpayer, it is a reduction in tax liability. Tax expenditures are better known in many OECD countries as tax reliefs, tax subsidies and tax aids (Schick, 2007).

In practice, defining tax expenditures is difficult because “some tax measures may not be readily classified as part of the benchmark or an exception to it” (Whitehouse, 1999). The problem begins with defining the “basic tax structure”. Most experts would agree that structural elements of a tax system should not be recorded as tax expenditures, while “programmatically” features should be. (p. 12)

According to Kraan (2004), the “benchmark tax includes: the rate structure, accounting conventions, the deductibility of compulsory payments, provisions to facilitate administration, and provisions relating to international fiscal obligations”.

Since tax expenditures are not actual outlays, the amounts “spent” are notional; that is, they are based on assumptions and estimates as to how taxpayers would behave under particular conditions.

World Bank “For its purposes, the **World Bank** defines tax expenditures as ‘concessions that fall outside a tax norm or benchmark. The tax norm includes the rate structure, accounting conventions, deductibility of compulsory payments, provisions to facilitate tax administration, and international fiscal obligations. Tax expenditures may take a number of forms: exemptions, allowances, credits, preferential tax rates, tax deferrals, and so forth.’ ” (Polackova Brix et al., 2004, p.3)

References

1. Abrams, B.A, Schmitz, M.D., (1978) "The crowding-out effect of governmental transfers on private charitable contributions", *Public Choice*, 33, 29-39.
2. Amos, O.M. (1982) "Empirical analysis of motives underlying individual contributions to charity", *Atlantic Economic Journal*, 10, 45-52.
3. Altshuler, R., and Dietz, R.D. (2008) "Tax expenditure estimation and reporting: A critical review", NBER Working Paper 14263, National Bureau of Economic Research.
4. Anderson, B. (2008) "Tax expenditures in OECD countries", Powerpoint Presentation at The Asian Senior Budget Officials Meeting, 10-11 January 2008, Bangkok, Thailand, www.oecd.org/dataoecd/40/6/39944419.pdf.
5. Australian Government, The Treasury (2013) "Tax expenditure statement 2012", Commonwealth of Australia.
6. Borgonovi, F., and O'Hare, M., (2004) "The impact of the national endowment for the arts in the United States: institutional and sectoral effects on private funding", *Journal of Cultural Economics*, 28, 21-36.
7. Borgonovi, F., (2006) "Do public grants to American theatres crowd-out private donations?", *Public Choice*, 126, 429-451.
8. Brooks, A., (1999) "Do public subsidies leverage private philanthropy for the arts? Empirical evidence on symphony orchestras", *Nonprofit and Voluntary Sector Quarterly*, 28, 32-45.
9. Brooks, A.C., (2000a) "Is there a dark side to government support for nonprofits?", *Public Administration Review*, 60, 211-218.
10. Brooks, A.C., (2000b). "Public subsidies and charitable giving: crowding out, crowding in, or both?", *Journal of Policy Analysis and Management* 19: 451-464.
11. Burman, L.E., and Phaup, M. (2011) "Tax expenditures, the size and efficiency of government, and implications for budget reform", NBER Working Paper 17268. National Bureau of Economic Research.
12. Burton, M. and Sadiq, K. (2013) "Tax expenditure management: A critical assessment", Cambridge: Cambridge University Press.
13. Burton, M. and Stewart, M. (2011) "Promoting budget transparency through tax expenditure management: a report on country experience for civil society advocates", Melbourne Law School Legal Studies Research Paper 544, University of Melbourne.

14. Caiumi, A. (2011) "The Evaluation of the Effectiveness of Tax Expenditures - A Novel Approach: An Application to the Regional Tax Incentives for Business Investments in Italy", OECD Taxation Working Papers, No. 5, OECD Publishing.
<http://dx.doi.org/10.1787/5kg3h0trjmr8-en>
15. Callen, J.L., (1994) "Money donations, volunteering and organizational efficiency", *Journal of Productivity Analysis*, 5, 215-228.
16. Clotfelter, C., (1985) "Federal tax policy and charitable giving", Chicago: University of Chicago Press.
17. Copi, I.M. and Cohen, C. (1990) "Introduction to logic", (8th ed.) New York: Macmillan.
18. Department of Finance, Canada (2010) "Tax expenditures and evaluations 2010: notes to the estimates/projections",
www.fin.gc.ca/taxexp-depfisc/2010/taxexp1004-eng.asp
19. Dokko, J.K. (2009) "Does the NEA Crowd Out Private Charitable Contributions to the Arts?", *National Tax Journal*, 62, 57-75.
20. Duncan, B., (1999) "Modeling charitable contributions of time and money", *Journal of Public Economics*, 72, 213-242.
21. Ferris, J.S., and West E.G., (2003) "Private versus public charity: Reassessing crowding out from the supply side", *Public Choice*, 116, 399-417.
22. Fookes, C. (2009) "spending through the tax system: Tax expenditures", New Zealand Treasury, Policy Perspectives Paper 09/01.
23. Garrett, T.A., and Rhine, R.M., (2007) "Government growth and private contributions to charity," *Federal Reserve Bank of St. Louis Working Paper Series*, No. 012E.
24. Gittel, R., and Tebaldi, E., (2006) "Charitable giving: factors influencing giving in the U.S. States", *Nonprofit and Voluntary Sector Quarterly*, 35, 721-736.
25. Gruber, J. and Hungerman, D.M., (2007) "Faith-based charity and crowd-out during the great depression", *Journal of Public Economics*, 91: 1043-1069.
26. Heutel, G., (2009) "Crowding out and crowding in of private donations and government grants", NBER Working Paper No. 15004.
27. Horne, C.S., Johnson, J.L., and Van Slyke, D.M., (2005) "Do charitable donors know enough – and care enough – about government subsidies to affect private giving to non-profit organizations?", *Nonprofit and Voluntary Sector Quarterly*, 34, 136-149.
28. House of Commons, (2008) "Public Services and the Third Sector: Rhetoric and reality – Government response to the committee's eleventh report of session 2007-08", House of Commons, London: The Stationary Office Limited.

29. Hughes, N.P., and Luksetich W. L., (1999) "The relationship among funding sources for art and history museums", *Nonprofit Management and Leadership*, 10, 21-38.
30. Hungerman, D. M., (2005) "Are church and state substitutes? Evidence from the 1996 welfare reform", *Journal of Public Economics*, 89, 2245-2267.
31. IMF (2007) "Manual on fiscal transparency", Fiscal Affairs Department, International Monetary Fund, Washington.
32. Jones, P.R. (1983) "Aid to Charities", *International Journal of Social Economics*, 10, 3-11.
33. Kaldor, N. (1955) "An expenditure tax", London: Allen and Unwin.
34. Khanna, J., Posnett, J., and Sandler, T., (1995) "Charity donations in the UK: New evidence based on panel data", *Journal of Public Economics*, 56, 257-272.
35. Khanna, J., and Sandler, T., (2000) "Partners in giving: the crowding-in effects of UK government grants", *European Economic Review*, 44, 1543-1556.
36. Kingma, B.R., and McClelland, R., (1995) "Public Radio Stations Are Really, Really Not Public Goods: Charitable Contributions and Impure Altruism", *Annals of Public and Cooperative Economics*, 66, 65-76.
37. Kingma, B.R., (1989) "An accurate measurement of the crowd-out effect, income effect and price effect for charitable contributions", *Journal of Political Economy*, 97, 1197-1207.
38. Kraan, D.-J. (2004) "Off-budget and tax expenditures", *OECD Journal on Budgeting*, OECD, Paris, 4(1), 121-142.
39. Lienert, I. (2010) "Technical notes and manual on the role of the legislature in the budget process", International Monetary Fund, Washington.
40. Lindsey, L., and Steinberg RS., (1990). "Joint crowdout: An empirical study of the impact of federal grants on state government expenditures and charitable donations", NBER Working Paper Series, No. 3226.
41. Manzoor, S. H. and Straub. J. D., (2005) "The robustness of Kingma's crowd-out estimate: Evidence from new data on contributions to public radio", *Public Choice*, 123, 463-476.
42. Marudas, N. P., and Jacobs, F. A., (2004) "Determinants of charitable donations to large U.S. Higher education, hospital, and scientific research npos: New evidence from panel data," *Voluntas: International Journal of Voluntary and Nonprofit Organizations*, 11, 157-180.
43. Meade, J. E. (1978) "The Structure and reform of direct taxation: Report", Allen and Unwin (London and Boston).
44. Mirrlees, J.A. et al., (2010) "Tax by Design", Oxford: Oxford University Press.

45. OECD (1998) "Best practice guidelines for evaluation," PUMA Policy Brief No. 5, Public Management Service, Paris: OEC.
46. OECD (2003) "Revenue statistics 1965-2002. Special features: Tax reliefs and the interpretation of tax-to-gdp ratios; The introduction of accrual accounting", OECD, Paris.
47. OECD (2010) "Tax Expenditures in OECD Countries", OECD Publishing, www.sourceoecd.org/taxation/9789264076891
48. Office of Tax Simplification (2013) "Definitions in tax legislation and their contribution to complexity".
49. Okten, C., and Weisbrod, B., (2000) "Determinants of donations in private nonprofit markets", *Journal of Public Economics*, 75, 255-272.
50. Pacque, K.-H. (1982) "The efficiency of public support to private charity: an econometric analysis of the income tax treatment of charitable contributions in the Federal Republic of Germany", Working Paper No. 152, Institut für Weltwirtschaft, Universität Kiel.
51. Payne, A., (1998) "Does the government crowd-out private donations? New evidence from a sample of non-profit firms", *Journal of Public Economics*, 69, 323-345.
52. Payne, A., (2001) "Measuring the effect of federal research funding on private donations at research universities: Is federal research funding more than a substitute for private donations", *International Tax and Public Finance*, 8, 731-751.
53. Pelozo, J., and Steele, P., (2005) "The price elasticities of charitable contributions: A meta analysis", *Journal of Public Policy and Marketing*, 24, 260-272.
54. Polackova Brixli, H., Valenduc, C.M.A., and Swift, Z.L. (eds), (2004) "Tax expenditures – shedding light on government spending through the tax system: Lessons from developed and transition economies", Washington: World Bank.
55. Posnett, J., and Sandler, T., (1989) "Demand for charity donations in private non-profit markets: the case of the U.K", *Journal of Public Economics*, 40, 187-200.
56. Reece, WS., (1979) "Charitable contributions: new evidence on household behaviour", *American Economic Review*, 69, 142-151.
57. Ribar, D. C., Wilhelm M. O., (2002) "Altruistic and joy-of-giving motivations in charitable behavior", *Journal of Political Economy*, 110, 425-457.
58. Scharf, K., and Smith, S., (2009) "Gift Aid Donor Research: Exploring Options for Reforming Higher-Rate Relief", HM Revenue and Customs.
59. Scharf, K., and Smith, S. (2014) "Impure pro-social motivation in charity provision: Warm glow charities and implications for public funding", *Journal of Public Economics*, forthcoming.

60. Schick, A., (2007) "Off-budget Expenditure: An Economic and Political Framework", OECD Journal on Budgeting, 7, Paris.
61. Schiff, J. (1990). "Charitable Giving and Government Policy", An Economic Analysis, Vol. 102., New York: Greenwood Press.
62. Schiff, J., (1985) "Does government spending crowd out charitable contributions?", National Tax Journal, 38, 535-546.
63. Seaman, B.A. (1980) "Economic models and support for the arts", in W.S. Hendon et al. (eds), Economic Policy for the Arts, Cambridge, MA:ABT Associates.
64. Simmons W.O., and Emanuele, R., (2004) "Does government spending crowd out donations of time and money?", Public Finance Review, 32, 498-511.
65. Steinberg, R.S., (1985) "Empirical relations between government spending and charitable donations", Journal of Voluntary Action Research, 14, 55-64.
66. Steinberg, R., (1990) "Taxes and giving: new findings", Voluntas, 1, 61-79.
67. Surrey, S.S., (1973) "The concept of tax expenditures", Cambridge: Harvard University Press.
68. Surrey, S.S., and McDaniel P.R, (1985) "Tax expenditures", Cambridge: Harvard University Press.
69. Tax Expenditures and Evaluations (2011) "Public Works and Government Services Canada".
70. Tinkelman, D., (1999). "Factors affecting the relation between donations to not-for-profit organizations and an efficiency ratio", Research in Governmental and Nonprofit Accounting, 10, 135-161.
71. Tinkelman, D. and Mankaney, K., (2007). "When is administrative efficiency associated with charitable donations?", Nonprofit and Voluntary Sector Quarterly, 36, 41-64.
72. US Joint Committee on Taxation (2013) "Estimates of federal tax expenditures for fiscal years 2012-2017", Prepared for the House Committee on Ways and Means and the Senate Committee on Finance. Washington.
73. US Office for Management and Budget (2002) "Budget of the United States government: Fiscal year 2003: Analytical perspectives", Washington: Government Printing Office.
74. US GAO (2013) "Tax expenditures: background and evaluation, criteria and questions", GAO-13-167SP: Guide for Evaluating Tax Expenditures, Washington: Government Accountability Office.
75. Whitehouse, E. (1999) "The tax treatment of funded pensions", Social Protection Discussion Paper Series, Washington: The World Bank,.

76. Yetman, M. H., and Yetman, R. J., (2003). "The effect of nonprofits' taxable activities on the supply of private donations", *National Tax Journal*, 56, 243-258.
77. Zimmermann, H.-J. (2001) "Fuzzy set theory—and its applications", (4th ed.) Dordrecht: Kluwer Academic Publishers.

© National Audit Office 2014

The material featured in this document is subject to National Audit Office (NAO) copyright. The material may be copied or reproduced for non-commercial purposes only, namely reproduction for research, private study or for limited internal circulation within an organisation for the purpose of review.

Copying for non-commercial purposes is subject to the material being accompanied by a sufficient acknowledgement, reproduced accurately, and not being used in a misleading context. To reproduce NAO copyright material for any other use, you must contact copyright@nao.gsi.gov.uk. Please tell us who you are, the organisation you represent (if any) and how and why you wish to use our material. Please include your full contact details: name, address, telephone number and email.

Please note that the material featured in this document may not be reproduced for commercial gain without the NAO's express and direct permission and that the NAO reserves its right to pursue copyright infringement proceedings against individuals or companies who reproduce material for commercial gain without our permission.

Links to external websites were valid at the time of publication of this report. The National Audit Office is not responsible for the future validity of the links.

DP Ref: 10489-001

