

The Base for Direct Taxation

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EXECUTIVE SUMMARY

The study of tax reform is best approached by examining the economic consequences of different tax structures on the levels of lifetime well-being for all people in the economy. Given some view of how the aggregate well-being of society depends on the distribution of well-being among different individuals, this can then become a basis for choosing which tax policy to pursue.

This is the starting point of the ‘optimal tax theory’ approach to tax policy and it is also the approach taken in this chapter. The traditional debate over the tax base—what it is that we should tax—has been focused on whether to tax total income or total expenditure. We argue that a better question is how to tax income from capital, on the assumption that there will continue to be some annual ‘progressive’ taxation of earnings in which the share of earnings taken in tax increases as earnings increase.

We focus on three questions:

- How should annual capital income be taxed: not at all, at a flat rate (as in the Nordic dual income tax), at a rate related to the marginal tax rate on earnings, or by taxing all income at the same rates?
- Should net payments into savings vehicles be deductible from earnings for tax purposes?
- Is it worth considering a more complex tax structure, and more particularly tax rates on earnings that depend on the age of the taxpayer? Would greater use of age-dependent rules in capital income taxation also be worthwhile?

Widely recognized optimal tax theory results suggest that capital income should not be taxed, to avoid distorting people’s decisions between consuming immediately and saving to finance consumption in the future. But we argue on grounds both of theory and of empirical evidence that there should still be some role for taxing capital income.

Two key findings lie behind this conclusion:

- First, people with high earnings capacity tend to be more willing and more able to smooth consumption over their lifetime by saving than those with low earnings capacity.
- Second, people with different earnings capabilities tend to have different earnings profiles and consumption needs over their life-cycle. Perhaps more importantly, people in early or mid-life are uncertain about their

earnings prospects and the amount of such uncertainty faced most likely differs by earnings capability.

The conclusion that capital income should be taxed does not, however, mean that the tax base should simply be total income, that is, the sum of labour income and capital income. We lean towards relating marginal tax rates on capital and labour incomes to each other in some way (as in the US), as opposed to the Nordic dual income tax where there is a universal flat rate of tax on capital income.

We also argue that age-dependent taxes are attractive for two reasons: first, they take account of the fact that the distribution of people's circumstances differs at different ages, and second, they allow tax policy to target individuals with different expectations of the future. The gains from age-dependent labour income taxes may not be trivial and, in addition, there may be a case for varying by age the amount of capital income people can receive without paying tax. A detailed analysis would, however, be needed to explore how substantial the gains might be, and to assess the transition costs of moving to such a system.

Since the Meade Report (Meade, 1978) there have been developments both in the theoretical debate on optimal taxation and in the availability of empirical evidence on the behaviour of individuals and the economic environments they face. Our chapter reflects these developments and there is no doubt that the evidence available for policy makers is considerably more substantial than it was thirty years ago. But certain issues warrant further research in terms of both the theory of optimal tax design and empirical evidence on the determinants of individuals' lifetime earnings profiles and work, consumption and saving decisions. Other chapters in this volume address the issues of gifts and inheritances and the presence of households and not just individuals who live alone. While related, these are not dealt with in our analysis.

6.1. INTRODUCTION

Chapter 2 of the Meade Report, 'The Characteristics of a Good Tax Structure', is divided into six sections: Incentives and economic efficiency, Distributional effects, International aspects, Simplicity and costs of administration and compliance, Flexibility and stability, and Transitional problems. To consider direct taxation in the UK, the Meade Committee examined each of these

issues separately and then combined the insights into a policy recommendation. It seems to us, as it seemed to Alfred Marshall, that this is an appropriate way to proceed.¹ While the capacity of computers to find equilibrium in complex models has grown apace since the Meade Report, the models available for analysis, like much of the underlying theory, are still quite limited and still too far from reality for us to proceed in any other fashion than that followed by the Meade Committee. Whilst citing some simulations, this essay focuses on theoretical findings with regard to the tax base.²

The traditional starting place for a study of tax reform, such as the Meade Report, is a definition of an ideal tax base, one that reflects both horizontal equity (treating equals equally) and vertical equity (those with larger ideal tax bases pay larger taxes). This ideal tax base is then adjusted in light of the issues raised by the other five areas of concern identified in chapter 2 of the Report.³

Since the mid-1960s, there has been a great deal of analysis that considers both equity and efficiency in a single model, rather than discussing them separately. These studies analyse the maximization of a social welfare function that is defined in terms of individual utilities.⁴ Equity issues are incorporated by having a heterogeneous population in the model rather than a single representative agent.⁵ After arguing briefly in Section 6.2 (and further in Section 6.8.4) that an initial choice of an ideal tax base drawn from an asserted concept of fairness is not a good starting place for policy analysis, the primary

¹ '... it [is] necessary for man with his limited powers to go step by step; breaking up a complex question, studying one bit at a time, and at last combining his partial solutions into a more or less complete solution of the whole riddle... The more the issue is thus narrowed, the more exactly can it be handled: but also the less closely does it correspond to real life. Each exact and firm handling of a narrow issue, however, helps towards treating broader issues, in which that narrow issue is contained, more exactly than would otherwise have been possible. With each step... exact discussions can be made less abstract, realistic discussions can be made less inexact than was possible at an earlier stage.' Marshall (1948), 366.

² For a recent optimal tax calculation and discussion of accomplishments and difficulties, see Judd and Su (2005).

³ Dedicated taxes for particular expenditures are a common feature of advanced countries (particularly in the context of social insurance) and can play an important political role. And there may be a direct normative gain from doing this in some circumstances. This chapter considers only individual (not corporate) taxation for general revenues.

⁴ Some studies consider properties of taxes that result in individual utilities such that it is not possible to make everyone better-off, given the set of allowable taxes. The set of such utilities is referred to as the second-best Pareto frontier.

⁵ The standard basic model treats administrative costs of different taxes as zero or (implicitly) infinite and ignores tax evasion. See, for example, the textbooks by Myles (1995); Salanié (2003); Tresch (2002); Tuomala (1990); although there are articles that address administrative costs and evasion. There has not been integration with macro issues incorporating, for example, built-in stabilizers (Auerbach and Feenberg (2000)) nor has the incorporation of international issues (trade, investment, migration) included the macro dimensions of those issues.

purpose of this chapter is to review the optimal taxation literature and draw inferences for policy that sets the tax base.⁶

Section 6.3 considers lessons from the optimal tax literature with regard to the taxation of income from capital in the presence of taxation of earnings. Section 6.4 considers the related issue of the tax treatment of saving. A succession of papers has shown that under certain conditions the optimal tax schedule should not include taxes on capital. This has led some analysts to favour taxing labour income but not capital income or taxing consumption by taxing labour income minus net saving. The analysis discusses both single cohort versions of this result (based on the Atkinson–Stiglitz (1976) theorem) and the infinite horizon result of Chamley (1986) and Judd (1985), the former addressing the problem from the perspective of decisions over the lifetime of a single generation, and the latter looking at an economy of multiple generations. In both cases, however, the required conditions for the optimality of zero taxation of capital income are argued to be too restrictive and the finding of no role for capital taxation is therefore considered not robust enough for policy purposes. Hence there should be some role for including capital income as a part of the tax base. However, the conclusion that capital income should be taxed does not lead to the conclusion that the tax base should be total income, the sum of labour income and capital income. At present, the literature has only a little to say about how to combine the two sources of income to determine taxes.

In Sections 6.3 and 6.4, the rate of return is assumed to be fixed and known. Section 6.5 examines some issues when there are alternative investment opportunities with safe and risky rates of return. Section 6.6 discusses age-dependent taxes (for example, different taxation of earnings for workers of different ages). Section 6.7 examines some implications of recognizing diversity in individual saving behaviour. Section 6.8 touches on a number of issues including a further discussion of the use of a social welfare function (6.8.1), government commitment (6.8.2), some modelling assumptions (6.8.3), and horizontal equity (6.8.4). Section 6.9 presents some empirical underpinnings for two key elements in determining the desirable taxation of capital income—differences in savings propensities and the shape of earnings

⁶ In terms of the chapter 2 topics of the Meade Report, we do not consider administrative costs (ignoring them for given tax bases), international aspects (analysing closed-economy models), nor the use of taxes as part of discretionary fiscal policy for macroeconomic stabilization. Oddly, the Meade Report ignores built-in stabilizers, which seem to us to matter. Other chapters in this volume contain discussions of issues not considered here, including tax rates, the presence of families, some administrative issues, and corporate taxation. For some administrative issues in a consumption tax, see Bankman and Schler (2007).

(and uncertainty about earnings) over the lifetime. Section 6.10 sums up and concludes.

This chapter leaves to Chapters 2 and 8, respectively, discussion of the provision for the very poor and concern about inheritances. It also leaves to Chapter 2 discussion of taxation that recognizes the existence of families. And the chapter assumes that annual measurement of wealth is not available and so considers annual capital income taxation instead.⁷ While the Meade Report was part of a tradition contrasting taxation of annual income with taxation of annual expenditures, the Report's inclusion of annual taxation of wealth along with taxation of expenditures in its policy recommendation represented a departure from previous debates based on choosing between either income or expenditure taxation. This chapter shares the Meade Report framing of the potential simultaneous use of several tax bases and focuses on three questions:

- If there is annual non-linear (progressive) taxation of earnings, how should annual capital income be taxed—not at all, linearly (flat rate, as in the Nordic dual income tax⁸), by relating the marginal tax rates on capital and labour incomes to each other (as in the US⁹), or by taxing all income the same?
- If there is annual non-linear taxation of earnings, should there be a deduction for net active saving?¹⁰
- If there is annual non-linear taxation of earnings, is it worth having a more complex tax structure, particularly age-dependent tax rates? Would greater use of age-dependent rules in capital income taxation be worthwhile?

The chapter reaches the conclusions that neither zero taxation of capital income nor taxing all income the same are good policy conclusions. The chapter leans toward relating marginal tax rates on capital and labour

⁷ While the values of some types of wealth are readily measurable, others are not. Of course the same is true for accruing capital income. In practice, this is addressed by taxing realized incomes. Such taxation could be, but is not, adjusted to offset the difference between accrual and realization taxation. We are not aware of a literature exploring the relative advantages of wealth and capital income taxation (with the latter supplemented by wealth taxation at death) as part of optimal taxation. Our conjecture is that capital income taxation could do better, but that is just a conjecture awaiting analysis.

⁸ On the Nordic dual tax, see Sørensen (2001, 2005).

⁹ In the US, the rate of tax on capital gains and dividends, generally 15%, is lowered for individuals whose marginal tax rate is 15% or less. In the past, half of capital gains were included in taxable income, also resulting in a marginal rate that varied with overall taxable income.

¹⁰ Active saving is defined as saving made directly from earnings, i.e. not including 'passive saving'—the increase in account values due to interest, capital gains, or dividend payments. Thus earnings minus net active saving equals income minus net savings.

incomes to each other as opposed to the Nordic dual tax. In parallel, the chapter reaches the conclusion that there should not be a full deduction for all of net saving. And the chapter concludes that age-dependent tax rates seem to offer enough advantages to justify the added complexity, although more research is needed to support this conclusion.

6.2. HORIZONTAL EQUITY AND THE CHOICE OF TAX BASE

Going back at least to Adam Smith, economists have asserted what the base for taxation should be (along with the degree of progressivity, given the chosen tax base).^{11, 12} The Meade Report states:

No doubt, if Mr Smith and Mr Brown have the same ‘taxable capacity’, they should bear the same tax burden, and if Mr Smith’s taxable capacity is greater than Mr Brown’s, Mr Smith should bear the greater tax burden. But on examination ‘taxable capacity’ always turns out to be very difficult to define and to be a matter on which opinions will differ rather widely. [Page 14.]

This is a definition of an ideal tax base, in the sense that it is underpinned by a direct view or argument about what is ideal. But it still relies on a further definition of taxable capacity, and, reflecting the acknowledged difficulty in defining taxable capacity, the Report goes on to ask: ‘Is it similarity of opportunity or similarity of outcome which is relevant?’ and ‘Should differences in needs or tastes be considered in comparing taxable capacities?’¹³ Historically, the debate over the appropriate base for annual taxation has

¹¹ ‘The subjects of every state ought to contribute towards the support of the government, as nearly as possible, in proportion to their respective abilities; that is in proportion to the revenue which they respectively enjoy under the protection of the state.’ Smith (1937), 777.

¹² Historically there have been two different approaches to an ideal tax base—one drawn from ability to pay and one drawn from the benefits received from government spending. Discussion of the pattern of benefits received from government spending programmes that affect the entire population did not achieve any consensus on its distributional significance and has disappeared from discussion of an ideal tax base. For example, it is hard to see how to allocate the benefit of military spending by income level in a way that is not too arbitrary to be useful. For historical discussion, see Musgrave (1959).

¹³ The Meade Report is not the only examination of taxation that concludes that taxable capacity is hard to define in a way to compel wide acceptance, as is needed for the role as an agreed-on normative basis. For example, Vickrey (1947) writes: ‘In a strict sense, “ability to pay” is not a quantity susceptible of measurement or even of unequivocal definition. More often than not, ability to pay and the equivalent terms “faculty” and “capacity to pay” have served as catch-phrases, identified by various writers through verbal legerdemain with their own pet concrete measure to the exclusion of other possible measures. Ability to pay thus often becomes a tautological smoke screen behind which the writer conceals his own prejudices’ (footnote omitted, pages 3–4).

been an argument between two approaches. One is that total (Haig–Simons) income¹⁴ is the best measure of ability to pay and therefore horizontal equity calls for Haig–Simons income as the tax base. The other, argued particularly in Kaldor (1955), is that annual consumption is the best measure of ability to pay and therefore horizontal equity calls for consumption as the tax base. This latter view is generally supported by the further argument that it is better to tax people on what they take from the economy (consumption) than a measure of what they provide (income).

We agree with the Meade Report that ‘“taxable capacity” always turns out to be very difficult to define and to be a matter on which opinions will differ rather widely’. We conclude that the consideration of an ideal tax base lends itself to too many concerns and conflicting answers to be viewed as a good starting point for the consideration of taxation. An alternative start is by examining the economic equilibria that occur with different tax structures.¹⁵ That is, for any tax structure (assuming it generates enough revenue to cover government expenditures), there is an economic equilibrium, and that equilibrium will result in particular levels of lifetime well-being for all the people in the economy. Given a social welfare function relating aggregate benefit to the distribution of individual lifetime utilities, these lifetime utilities can therefore become the basis for evaluating the normative properties of the various alternative equilibria. This is the starting place of an optimal tax approach to tax policy. Thus, optimal tax theory is based on a consequential philosophy. For each tax structure it describes the economic equilibrium, and thus the utility levels of the different economic agents. Then it asks which of these equilibria offers the utility levels judged best by a social welfare function (an increasing function of individual utilities, which thereby incorporates concern about distribution in terms of utilities, not incomes).

With an optimal tax approach, some aspects of horizontal equity can be addressed by viewing horizontal equity arguments as providing limitations on the set of allowable tax policies, as has been argued by Atkinson and Stiglitz (1980). This chapter accepts the view that tax tools should be limited

¹⁴ Haig–Simons income is labour income plus accrued capital income—Haig (1921), Simons (1938). Shaviro (2002) notes that, ‘the spirit in which this hypothetical measure [relevant to distributive justice] is discussed (or, rather, deliberately not discussed) was well illustrated by Henry Simons (1938, 31), when he argued that attempts to poke too far behind the supposed objectivity of an income definition “lead directly back into the utter darkness of “ability” or “faculty” or, as it were, into a rambling, uncharted course pointed only by fickle sentiments”’.

¹⁵ Traditionally, economics has been consequentialist in this sense, as shown, for example, by the centrality of the Fundamental Welfare Theorem, examining conditions under which there is equivalence between competitive equilibrium and Pareto optimality. A Pareto optimal allocation is one from which it is not possible to increase the utility of one household without decreasing utility for another.

by such equity considerations and that policies should be restricted to ones that are uniform over their stated tax base, that is, tax systems in which those with equal circumstances in the relevant dimensions are treated equally.¹⁶ Tax tools should also reflect administrative and political feasibility. One would need a great deal of faith in the political process not to want some protections against arbitrary tax assessments under the guise of 'better taxation'. A complication in structuring protections lies in the definition of arbitrary. If one actually can increase social welfare by drawing distinctions between individuals, are the distinctions still arbitrary? A concern with actual and possible motivations in the political process should lie behind restrictions on tax policies, and the concept of horizontal equity is likely to be very helpful in addressing this issue, without necessarily being the starting place for tax analysis.

Although much has been learned about earnings taxation in one-period models since the pioneering work in Mirrlees (1971), one-period models lack an intertemporal dimension suitable for considering the relative tax treatment of capital and labour incomes. When one moves to intertemporal settings a source of concern about the formulation of the objective function individuals are assumed to maximize arises to the extent that some people may not exhibit time consistency in their behaviour.¹⁷ Since this issue is indeed central to the analysis of the relative taxation of capital and labour incomes, the chapter returns to it in Section 6.7, after first exploring implications of models with fully rational agents. For now, the chapter simply proceeds with preferences that are assumed to be fully rational and time-consistent. This approach is based on the idea that a good starting place for policy is the policy for fully rational agents, a policy that can then be adjusted in recognition of the inadequacy of the assumption that all individuals show fully rational behaviour. For example, in considering the taxation of capital income, the chapter first asks how that should be done in an economy with only fully rational agents and then asks (in Section 6.7) about adjustment

¹⁶ The condition of uniform taxation given the base rules out randomized taxation, which, under some circumstances, can raise social welfare. Nevertheless, randomized auditing of returns does not seem unfair to us or, apparently, to the public as long as the probabilities are suitably selected and the audits are not unduly unpleasant.

¹⁷ Time consistency is the property of making the same decision when given the same choices under the same circumstances at different times. Time inconsistency occurs when different choices are made even though the circumstances are the same. Analyses with time-inconsistent quasi-hyperbolic preferences and with the simple assumption that some people do no saving at all do not reach the same conclusions as the usual full rationality model where individuals are consistent in their desire to borrow and save in anticipation of future events. A similar issue of the appropriate objective function for social evaluation arises if the analyst is concerned that individuals discount the future excessively even if they are time-consistent.

in recognition that some fraction of agents do not appear to save enough for their own good and others accumulate vast sums, not aimed at later consumption. Even the first step, with fully rational agents, is complex given the many relevant aspects of the economic environment, which are modelled separately in optimal tax analyses because of the difficulty in making inferences if the model has many complications at the same time.

The focus in this chapter is on the relative taxation of labour and capital incomes, not the relative merits of taxing total (Haig–Simons) income and taxing consumption, as has commonly been the focus of analyses.¹⁸ In the end, the Meade Report effectively did the same—the Report closes with a section entitled ‘ULTIMATE OBJECTIVES’:

We believe that the combination of a new Beveridge scheme (to set an acceptable floor to the standard of living of all citizens), of a progressive expenditure tax regime (to combine encouragement to enterprise with the taxation of high levels of personal consumption), and of a system of progressive taxation on wealth with some discrimination against inherited wealth, presents a set of final objectives for the structure of direct taxation in the United Kingdom that might command a wide consensus of political approval and which could be approached by a series of piecemeal tax changes over the coming decade. [Page 518.]

Thus with a tax on expenditures *and* a tax on wealth, the Meade Report did not keep a simple measure of taxable capacity as the basis for taxation, although it argued that wealth and consumption were both relevant for measuring taxable capacity. The chapter discusses equity further in Section 6.8.4.

6.3. OPTIMAL TAXATION OF CAPITAL AND LABOUR INCOME

Optimal tax theory uses simple general models and calculated examples to draw inferences about how taxes should be set in order to strike a balance between equity and efficiency concerns. Different weights on the concern for equity naturally lead to different taxes.¹⁹ So the theory is designed to show a relationship between normative concerns and tax bases and rates. The approach is to consider economic equilibria under different tax structures and to examine which tax structure gives an equilibrium with the highest

¹⁸ See, for example, Aaron, Burman, and Steuerle (2007); Bradford (1986); Pechman (1980).

¹⁹ Formally, differing concerns about equity are incorporated by the choice of a particular cardinalization of ordinal preferences and the degree to which the social evaluation of an individual's utility varies with the individual's level of utility.

social evaluation of the lifetime utilities of the participants in the economy. The specific optimal taxes from any particular model are not meant to be taken literally, but insights from the modelling, when combined with insights from other sources, can help lead to better taxes. That is, just as the Meade Report had multiple concerns beyond its concern with taxable capacity, so too, the optimal tax approach is a starting place, to be combined with concerns that are not in the formal modelling. One additional concern of particular relevance is the complexity of the tax structure. A desire to avoid complexity comes from seeking simplicity in the tasks of taxpayers, tax collectors, and tax-setting legislatures. There are many papers that analyse optimal taxes; and they differ in many ways. This chapter is not a survey of methods and model results, but a selective drawing of some key policy inferences from the literature.

In each year, there are taxpayers with labour income and taxpayers with capital income and taxpayers with both. Apart from previously deferred compensation, labour income comes from time spent working during the year. Earnings are also influenced by earlier decisions about education, on-the-job training, job location, and job history. Capital income within the year comes primarily as a result of the previous accumulation of assets and liabilities on which capital income is earned and paid. Saving and portfolio decisions during the year are influenced by anticipated taxes in future years. Anticipated future taxes have some relevance for earnings as well, with future earnings being a substitute for current earnings in financing lifetime consumption. Focus on taxation in a single year, without consideration of both earlier and later years, is thus incomplete. This incompleteness is more significant for consideration of taxes on capital income than on labour income. This distinction between the roles of the two types of income on a lifetime basis is the basis for consideration of intertemporal models, even when considering taxation levied on an annual basis.²⁰

Taking a lifetime perspective, some policy analysts have called for ending the taxation of capital income.²¹ This position is based, at least in part, on optimal tax modelling that reaches this conclusion. This chapter presents separately the two arguments for zero taxation of capital income that have been important for the thinking of many economists, and then shows their lack of robustness to changes in the underlying assumptions, changes that are

²⁰ The analysis in this chapter ignores the existence of a corporate income tax and reasons for having one. The focus is on taxing individuals. The presumption is that the suitable role for a corporate income tax builds on the desired role of taxation of individual capital income, not vice versa.

²¹ See, for example, Atkeson, Chari, and Kehoe (1999); Weisbach (2006); and Bankman and Weisbach (2006).

empirically important. The analysis also serves as background for considering the polar opposite policy of basing taxation on total income, the unweighted sum of labour income and capital income. Why this alternative has not received support from optimal tax analyses is discussed briefly below.

6.3.1. A simple two-period model of work and retirement

Our starting place for consideration of the taxation of both labour income and capital income is a model with two periods, with labour supply in the first period and consumption in both the first and second periods.²² Suppressing a role for taxing initial wealth (discussed briefly in Sections 6.3.3 and 6.8.2), saving from first-period earnings, used to finance second-period consumption, generates capital income that is taxable (in the second period). Since there is only a single period of work, the model can be viewed as shedding light on the taxation of saving for retirement. For an analysis of issues relating to the taxation of early life savings that are intended for possible consumption during mid or late working life one would need a model with two separate labour supplies, representing labour supply at different times or ages. Such models are considered in Section 6.3.2.

A good place to start considering this class of models is the well-known Atkinson–Stiglitz theorem (1976) which states that when the available tax tools include non-linear earnings taxes differential taxation of first- and second-period consumption is not optimal if two key conditions are satisfied: (1) all consumers have preferences that are separable between consumption and labour and (2) all consumers have the same sub-utility function of consumption.²³ The first condition states that the marginal benefit derived from consumption over the lifetime should not depend on labour supply, and the second requires all consumers to be similar in their desire to smooth consumption across their life cycle and across potentially uncertain states of the world. Like the Fundamental Welfare Theorem, this theorem can play two roles—one is to show that limited government action is optimal in an interesting setting, and the second is to provide, through the assumptions that play a key role in the theorem, a route towards understanding the circumstances calling for more government action (in this case distorting taxation of saving

²² Interpreting the solution from such a model should be in terms of the total taxation that falls on the tax base, not just the particular form of tax used in describing the model.

²³ Separability between labour and the vector of consumptions and the same subutility function for all individuals can be expressed as $U^n[x_1, x_2, z] = \tilde{U}^n[B[x_1, x_2], z]$, with x_1 and x_2 being consumption in each of the two periods and z being earnings. A special case is the convenient and widely used additive function $U^n[x_1, x_2, z] = u_1[x_1] + u_2[x_2] - v[z/n]$.

