THE THEORY OF TAXATION AND PUBLIC ECONOMICS  
BY LOUIS KAPLOW  
(Princeton University Press, Princeton, NJ, 472 Pages)

John D. Wilson

In his preface, Louis Kaplow writes, “The purpose of this book is to offer a unifying conceptual framework for the normative study of taxation and related subjects in public economics.” This framework is very much in the optimal tax mode, where a social welfare function with individual utilities as arguments is maximized, subject to a government budget constraint. To this reviewer, optimal tax theory is one of the triumphs of modern public economics, though much remains to be done. It is fun and informative to read in one place about the progress researchers have made in understanding many facets of the optimal tax problem, while at the same time seeing how progress is being slowed by the problem’s sheer complexity. For example, we still do not have a definitive answer to the question of whether optimal marginal income tax rates rise or fall as incomes become high, but we now know a lot about the factors that determine the answer. In addition, the models covered in this volume are of limited value for developing countries, for which Kaplow observes that income taxation is largely infeasible.1 While the book’s main focus is on established results from the standard optimal tax model, with its assumptions of fully optimizing consumers under complete information, no costs of tax administration, and no inefficient political processes, it provides informative discussions of departures from these and other assumptions.

The book covers a wide range of research on normative tax theory, and therefore could be useful to economists interested in learning about the area. Little space is devoted to formal statements of the optimal tax problems, and, “… no attempt is made here to replicate existing formal derivations or to extend them. Instead, attention is focused on articulating the main results and the intuition behind them …” (p. 57). Thus, the book is probably not suitable as the main text for public finance courses for Ph.D. students.

1 Gordon and Li (2009) provide a novel explanation of the tax structure for developing countries. (Kaplow cites the 2005 working paper version.)
in economics, but it might serve as a supplementary text and could be of interest to
graduate students in other fields if they have a strong background in microeconomics.
Given the technical nature of optimal tax theory, the book has surprisingly few equa-
tions, but some of the main results are stated in equation form with calculus, such as
the rules for the optimal nonlinear income tax. In my opinion, some arguments would
be clearer if more formal analysis were employed.2

The field of public finance is too large to be adequately surveyed in one text. The next
section delineates the scope of Kaplow’s coverage. Section II critiques his “integrated
view” of normative tax theory, which gives a prominent role to taxes on wage income.
Section III discusses his negative view of the “Ramsey framework,” and Section IV
discusses his material on government provision of goods and services. Section V briefly
discusses the role of firms in optimal tax theory, and Section VI provides concluding
remarks.

I. BREADTH OF COVERAGE

The book is divided into five sections. Part I discusses different forms of social
welfare functions, carefully distinguishing between the concavity of the social welfare
function (SWF), described as “[… a normative judgment … grounded in a theory of
distributive justice],” and the degree of risk aversion implied by individuals’ utilities,
which is “[a matter of empirical fact]” (p. 44). The topic of social welfare functions and
other normative criteria is considered in more detail in Part V. Part I also describes
the “integrated view” used for tax analysis in this book, which I discuss below. The
remaining parts analyze specific policies. Part II examines optimal taxation, consisting
mainly of income and commodity taxes; Part III examines government expenditures,
including both income transfers and government provision of goods and services; and
Part IV analyzes other aspects of taxation, including capital taxes, taxes on transfers
between individuals (mainly gifts and bequests), taxation and social security, and the
taxation of the family.

The book places the most emphasis on the tax side of government, particularly the use
of taxes on commodities and wage income, and related policy instruments (e.g., social
security and transfer payments). A theme is that nonlinear taxation of wage income can
replace tax instruments that would otherwise be used. Differential commodity taxation
is not needed, for example, and it is argued that, “[… the existence of a redistributive
social security system makes no difference in the present setting. Any redistribution
can be incorporated into the labor income tax and transfer scheme]” (p. 277). Kaplow
carefully qualifies these claims, noting, in particular, that income taxes may need to be

2 For example, even readers with a good knowledge of calculus may find it slow going to read verbal de-
scriptions of derivatives, such as: “[… the change in disposable income, which has two components: the
change in net-of-tax wage multiplied by the level of labor effort and the change in labor effort multiplied
by the net-of-tax wage]” (p. 340).
dependent on age and birth cohorts to produce equivalences with a social security system. An argument against the taxation of capital is also presented, though here and elsewhere Kaplow provides an informative discussion of qualifications to his “benchmark case,” which involves strong restrictions on consumer preferences, as discussed below.

The optimal tax models presented in the book are the static models that can be found in Diamond and Mirrlees (1971) for the case of a linear commodity tax, and in Mirrlees (1971) for a nonlinear tax on wage income, where the marginal tax rate is allowed to vary with income. Even in the section on capital taxation, the main model is essentially a static optimal tax model with the goods reinterpreted as consumption in different periods of time. The purpose of taxation in these models is to raise revenue and redistribute income. But much literature on alternative considerations and approaches is described, such as a short discussion of the literature on dynamic Mirrlees models, where there is aggregate uncertainty, along with idiosyncratic uncertainty about labor productivities, creating an insurance role for taxation. With an extensive list of references, the book provides readers with a valuable roadmap of past and current literature. One quibble is that the book lacks a separate author index, but heavily-cited authors appear in the book’s single index.

Kaplow writes that, “The ambition of this project is similar in spirit to that of Musgrave in The Theory of Public Finance …,” and he notes, “The closest modern incarnation is Atkinson and Stiglitz’s Lectures on Public Economics, which builds importantly on Mirrlees’ seminal paper on optimal nonlinear income taxation” (p. xviii). But Musgrave (1959) and Atkinson and Stiglitz (1980) are much more comprehensive in their coverage, also devoting significant attention to purely positive aspects of taxation, including the incidence and incentive effects of taxes. Kaplow deals with these topics when they have a direct bearing on normative theory, such as a 10-page section on behavioral responses to labor income taxation, which are critical for the design of an optimal tax on wage income. In the chapter on the public provision of goods and services, he also discusses problems with the concept and measurement of distributive incidence, concluding that the “… measurement of the incidence of particular programs, especially those that may be subject to reform, is relevant for both descriptive and normative purposes” (p. 209). But readers will not find general equilibrium models of tax incidence in the book, and although Kaplow discusses how political factors qualify his normative analysis, he does not model voting or other political processes.

Concerning possible inefficiencies in the functioning of the political system, Kaplow observes, “Such possibilities may be relevant to understanding observed policy choices and ultimately to giving more politically savvy advice, but they are not dealt with in this book” (pp. 144–145). To this I would add that it is difficult to formulate a social objective function that is useful for policymaking without at least some awareness of the functioning of the political system. For example, Kaplow observes in his chapter on social welfare functions that national boundaries have “no clear, a priori ethical relevance in determining whose utility should count in formulating an SWF” (p. 379), but he then recognizes in a footnote that, “National boundaries may also correspond to the reach of
citizens’ altruism and to who votes and thus has the political power to insist on inclusion … In any event, such considerations are beyond the purview of this book” (footnote 17, pp. 379–380). Nevertheless, a wide variety of important considerations remain in the book’s purview, and there is much to learn from the section on social welfare.

To describe the incidence of a tax, the researcher must discover how market prices adjust after it is imposed. Kaplow largely skirts this issue by working mostly with models in which the prices faced by private producers are fixed. For example, the Mirrlees optimal income tax model assumes fixed relative wages for different types of labor. The assumption of fixed producer prices simplifies the exposition, and is in keeping with Kaplow’s decision to keep formal mathematical arguments to a minimum. In some cases, this simplification involves no loss of generality. In particular, an important insight from the Diamond-Mirrlees theory of optimal commodity taxation is that changes in producer prices do not have any role in the rules for optimal taxation and public production, if all commodities can be optimally taxed and there are no untaxed profits.

Kaplow’s coverage is also confined to a unitary government, and thus does not deal with issues involving fiscal federalism. This is a potentially important omission because the optimal tax system for a central government will depend on the taxes levied by local governments (Hoyt, 2001). For example, housing subsidies provided at the federal level may look less inefficient when local taxes on residential property are taken into account.

International tax issues are also not addressed. Such issues have become central to the analysis of the corporate income tax, but the book contains only a few pages on this tax, concluding that its existence is difficult to justify, a view shared by many tax economists.

To conclude, this book is more specialized in its coverage than many readers might expect from a book on “the normative study of taxation and related subjects in public economics.” But the narrower focus helps Kaplow present an “integrated view” of taxation, which I discuss next.

II. THE INTEGRATED VIEW

The integrated view involves three principles. The first, completeness, involves specifying all relevant features of a policy. An important message here, long recognized by public finance economists, is that a single tax cannot be analyzed in isolation of other taxes, because one or more of the latter instruments must be adjusted to balance the government’s budget after the tax under consideration is implemented. The second principle, comprehensiveness, is “… the need to consider all pertinent policy instruments” (p. 13), which include “… the main mechanisms by which governments do or could raise revenue and the various ways in which such funds are spent” (p. 19). For example, Kaplow observes that, “It is usually best to use instruments that are most directly related to the matter in question” (p. 21), a principle that international trade economists have employed in their arguments against the use of import tariffs to address distortions in the domestic economy. For the third principle, comparability, Kaplow
writes, “In evaluating a given policy, it is often most helpful to focus on one dimension at a time and, furthermore, to distinguish intrinsic from incidental characteristics” (p. 14).

These principles lead Kaplow to emphasize the role of the taxation of wage income in the evaluation of other policies. In particular, he recommends that when assessing the desirability of a policy, it is useful to adjust the system of income taxes and transfers to achieve “... an overall result that is distribution neutral” (p. 14). For example, a luxury tax would be offset by reducing income tax payments more for the rich than for the poor. In this way, the analysis focuses on the efficiency effects of a policy, which show up in how the policy affects the government budget constraint. By isolating these efficiency effects from distributional concerns, Kaplow is following his comparability principle. The full effects of the policy may then be obtained by moving from the distribution-neutral policy in the first step of the analysis to the actual policy in the second step, a policy change that itself will usually involve both efficiency and distributional effects.

Using this two-step procedure, Kaplow argues that there is no need to supplement the income tax with differential commodity taxation. But as Kaplow later observes, this well-known result relies on the assumption that the utility function is weakly separable between labor (or leisure) and all other commodities, taken together; that is, the utility function can be expressed, \( u(\nu(x_1, \ldots, x_n, l)) \), for some functions \( u \) and \( \nu \), where \( x_i \) is consumption of good \( i \), \( l \) is labor, and individuals differ in the wage rates they receive.

The separability assumption is used again in the chapter on the taxation of goods and services to show that the Samuelson rule for optimal public good provision continues to hold under income and commodity taxation (see the discussion below), and in the chapter on capital taxation to rule out the use of capital taxation as part of an optimal tax system. For a two-period model with work only in the first period, the utility function becomes \( u(\nu(c_1, c_2, l)) \), where \( c_i \) is consumption in period \( i \) and labor \( l \) is supplied only in the first period. But Kaplow observes that without this assumption, it may be optimal to impose capital taxes or subsidies. The intertemporal structure of the model provides strong arguments against separability, or at least for separability of the form, \( u(\nu(c_1, \nu(c_2, l))) \), given that first-period consumption and labor effort occur in the same period. The latter form of separability, however, does not lead to simple theorems on the optimal capital tax.

Kaplow is not alone in giving prominence to optimal tax results based on separability, but there does not seem to be much empirical support for or against the separability assumption. Perhaps the best defense of results based on separability assumptions is that they often call into question well-established beliefs about the structure of optimal taxes or public good rules.

If we recognize that preferences normally do not satisfy the separability assumption, then how useful are distribution-neutral income tax adjustments? With separability, Kaplow is able to show that adjusting the income tax to keep the proposed policy distribution neutral results in no change in labor supplies. In other words, the efficiency effects take the form of changes in the pattern of expenditures on goods and services, not labor supply. But with more general preferences, a distribution-neutral policy will
not only normally alter labor supplies, but it may not even exist. Take, for example, the special case of Mirrlees’ optimal income tax model where there are only two types of workers, skilled and unskilled (Stiglitz, 1982). Under the optimal nonlinear income tax, the interesting case is where income is distributed to the point where skilled workers are just indifferent between their chosen consumption-labor bundle and the consumption-labor bundle chosen by unskilled workers. Suppose that we now impose a subsidy on a good that most benefits skilled workers when their labor supplies are relatively low, say, “commercial airline tickets.” (Assume that high-income workers use private planes.) We then try to follow Kaplow by adjusting the income tax schedule so that both unskilled and skilled workers are as well off as before the change. The problem is that there may be no way to keep the unskilled workers as well off as before, without giving the skilled workers an opportunity to raise their utilities by choosing to earn the same income as the unskilled workers, assuming that skilled workers receive relatively high benefits from the ticket subsidy when their incomes drop to this level. In this case, there is no distribution-neutral policy involving the ticket subsidy and change in the income tax.\footnote{In a diagram with before-tax labor income on the horizontal axis and total consumption expenditures on the vertical axis, the problem is that the subsidy may steepen the skilled indifference curve corresponding to the initial skilled utility to the point where it never intersects the unskilled indifference curve as labor income declines, but rather lies everywhere below the unskilled indifference curve.} Alternatively, there could exist such a policy, but it is only achieved by greatly distorting the behavior of unskilled workers, perhaps causing them to choose very low income levels that are not appealing to skilled workers, even with the ticket subsidy. In this latter case, it does not seem useful to break the ticket-subsidy policy into two steps, first with a neutralizing income tax adjustment and then removing the adjustment to obtain the distributional effects. The inefficiencies uncovered in the first step are not teaching us much about the overall welfare effect, which may be positive.

Another complication is that implementing a distribution-neutral adjustment in the income tax generally requires the absence of restrictions on the shape of the income tax schedule. Even in advanced economies, tax schedules contain finite tax brackets, not the infinite number assumed in the Mirrlees optimal nonlinear income tax model. Recognizing this feature, Kaplow describes research on the optimal two-bracket income tax. Among recommendations for fundamental tax reform in the United States, flat tax proposals are particularly prominent because they reduce or eliminate the disparity between personal and business tax rates, thereby reducing the opportunity to engage in tax arbitrage by shifting taxable income from high-tax activities to low-tax activities. For developing countries, it becomes difficult to implement any form of personal income taxation, in light of the problems involving tax administration.

To conclude, Kaplow’s use of a two-step policy decomposition, involving distribution-neutral income tax adjustments, is most useful as a means of deriving the striking implications of separable preferences, but its usefulness is less clear as a more general method for isolating efficiency considerations from distributional concerns once this assumption is relaxed.
III. THE RAMSEY FRAMEWORK

One major difference between this text and the usual treatment of optimal tax theory is that Kaplow has little use for representative-consumer models, where lump-sum taxes are ruled out and the problem is to choose commodity taxes to maximize utility, subject to the requirement that an exogenous amount of revenue be raised. In fact, this “Ramsey tax problem” is not examined until after the optimal income tax problem and its extensions are discussed, and then Kaplow concludes, “In sum, whether or not distribution is a concern, results derived in the original Ramsey framework, in which no income tax is available, fail to provide proper guidance in a world with an income tax” (p. 148).

There are arguments in favor of the Ramsey framework, however. As a pedagogical device, representative-consumer models are invaluable for understanding how the marginal distortions from a tax system are determined: a “tax wedge” multiplied by a compensated change in the demand or supply for the taxed commodity, meaning that lump-sum income is adjusted to keep utilities fixed. The central importance of compensated elasticities in the design of an optimal commodity tax system carries over to many-consumer models with linear or nonlinear income and commodity taxation, but compensated elasticities do not appear in some of Kaplow’s tax rules, because income effects are assumed away. By identifying the important role of compensated elasticities, the representative-consumer model is at least an important interim step in obtaining an understanding of optimal tax structures.

The rules obtained from the Ramsey framework also help us understand the optimal structure of taxes for many-consumer economies. In fact, Kaplow relies on the Corlett-Hague rule from this framework to explain how different goods should be differentially taxed in a many-consumer economy when preferences exhibit nonseparability and therefore uniform taxation is not necessarily optimal: tax relatively heavily goods that are more complementary (less substitutable) with leisure. Kaplow emphasizes the importance of such efficiency considerations by claiming that “the analysis of nonseparability reinforces the notion that redistributive concerns are not directly relevant to the assessment of differential commodity taxation” (pp. 138–139).

As another example, Kaplow applies the inverse elasticity rule in his discussion of the optimal taxation of families. In particular, a well-known argument is that the income earned by a family’s secondary wage earner should be taxed at a lower marginal rate than the income earned by the primary wage earner, since the latter has a lower labor supply elasticity. For this reason, separate filing is preferable to joint filing.4

For developing countries, optimal tax rules from the Ramsey framework are of limited value, because they ignore administrative costs, which are central to tax policy in developing countries. But these rules can be modified to account for costly tax

---

4 But this might not be a very good application of the inverse elasticity rule, because the assumptions of no income effects and no cross-price elasticities are very likely violated. Brett (2007) shows that it may be optimal to tax a spouse’s income at a negative marginal rate.
administration, once again attesting to their usefulness at least as a starting point for tax analysis (Dharmapala, Slemrod and Wilson, 2009).

For some policy issues, it has become apparent that the Ramsey framework gives very misleading answers. For example, Wilson (1991) presents an argument for why the use of distortionary commodity taxation increases the optimal provision of “distributionally-neutral” public goods in a many-consumer economy, once it is recognized that a poll tax is also available to serve as the marginal source of finance. In the Ramsey framework, where there are no lump-sum taxes, it has been argued that the opposite is the case. But the Ramsey framework remains a valuable starting point for tax analysis.

IV. GOVERNMENT PROVISION OF PUBLIC GOODS AND SERVICES

While this is mainly a book about tax policy, there is a chapter on government expenditures on goods and services. Local public goods are not discussed, since the book does not deal with federalism issues, and the discussion of national public goods again emphasizes the use of income taxation to finance them, with the separability assumption again taking center stage. In particular, the utility function now takes the form, \( u(v(c, G), l) \), where \( G \) is a public good. With the availability of distribution-neutral adjustments under the income tax, the rules for optimal public good provision involve only efficiency considerations; that is, optimal public good provision will satisfy the Samuelson rule. But although the separability assumption is made in a subsection titled, “General Case: Distributive Incidence and Optimal Provision,” dropping it leads quickly to results on how the Samuelson rule should be violated in a world with nonlinear income taxation. Kaplow cites Christiansen (1981) and Boadway and Keen (1993) as showing “that the simple cost-benefit test for public goods provision is correct” (p. 193). But this claim is only one corollary of a proposition in Boadway and Keen showing how the Samuelson rule is violated under a nonlinear income tax. The basic insight is that such violations “loosen” the self-selection constraints in the optimal tax problem, enabling desirable changes in the tax schedule.

Kaplow also notes that Christiansen and Boadway-Keen must assume that the income tax is set optimally, whereas his use of a distribution-neutral tax adjustment does not require the initial income tax to be optimal. But if the government is able to adjust the income tax in a distribution-neutral way, then why is it not also able to optimize the income tax? Perhaps the answer is that the government is able to make any desired “small” reforms in the income tax as a response to a government expenditure program, but it cannot make the large changes needed to optimize the income tax. In any case, it would be useful to better articulate what specific constraints are preventing the government from fully optimizing the income tax.

5 Stiglitz (1988, p. 140) writes, “Since it becomes more costly to obtain public goods when taxation imposes distortions, normally this will imply that the efficient level of public goods is smaller than it would have been with nondistortionary taxation.”
One surprising omission from this volume is the Diamond-Mirrlees (1971) theorem on aggregate production efficiency, which says that the economy should be on the frontier of its aggregate production possibility set if commodity taxes are set optimally and there are no untaxed economic profits. This theorem implies that governments should maximize profits at existing producer prices when it produces goods also sold on competitive private markets. Stated differently, producer prices should serve as shadow prices for public project evaluation.

The Diamond-Mirrlees theorem also has important implications for tax policy. It tells us that there is no role for taxes on transactions between firms (e.g., gross receipts taxes) and taxes that are not levied uniformly on all firms should not be employed (e.g., the corporate income tax). In an international context, a small country should not tax the capital located within its borders, since doing so leads to inefficiencies in the allocation of capital between domestically-located and foreign-located firms.

Thus, the theorem provides some justification for Kaplow’s emphasis on taxes on commodities and wage income. On the other hand, it helps explain results for cases where the assumption of optimal commodity taxation is violated. For example, Kaplow considers the extension of the Mirrlees optimal income tax model to allow different labor types to be imperfect substitutes, implying that taxes affect relative wages. Regardless of whether the tax schedule is linear or nonlinear, these different types of labor represent different commodities, so subjecting them to the same income tax schedule implies the absence of optimal commodity taxation. For this reason, capital taxes or subsidies may be justified as a means of changing the relative wages of unskilled and skilled labor in desirable ways (p. 120). Inefficiencies should also be introduced in public production as a means of inducing desirable changes in relative wages. For the case of a linear income tax, Wilson (1982) analyzes how public shadow prices for these labor types differ from the corresponding market wages.

V. ADMINISTRATIVE COSTS AND THE ROLE OF FIRMS

The normative tax theory presented in this volume follows standard optimal tax models in ignoring the role of firms in tax systems. In particular, constant returns to scale are assumed, in which case firm size and the equilibrium number of firms is indeterminate. But firms are central to the collection of taxes, as evidenced by recent studies in the United States and the United Kingdom showing that over 80 percent of all taxes are remitted by business (Christensen, Cline and Neubig, 2001; Shaw, Slemrod and Whiting, forthcoming). Anecdotal evidence suggests that the collection of taxes from businesses is even more important in developing countries. In his chapter on “Elaborations and Extensions,” Kaplow cites a paper by Kopczuk and Slemrod (2006) showing tax systems relying on remittances by firms may be preferable because firms rely more on arm’s-length transactions that are difficult to hide. Dharmapala, Slemrod, and Wilson (2009) observe that a large share of tax revenue tends to be collected from a small number of large firms, and they develop a model in which governments formulate an optimal threshold for firm size, below which taxes are not collected.
Kaplow’s book contains insightful discussions of many factors left out of the standard optimal tax framework, including administration and enforcement costs, and their implications for the analysis. But there remains a need for a fundamental reworking of the normative theory of taxation to reflect the importance of these costs, and the importance of firms in modern tax systems.

VI. CONCLUDING REMARKS

This book offers an integrated view of optimal tax theory, focusing on the taxation of wage income and what the use of this tax implies about the optimal design of other public policy instruments, including other taxes, transfer payments, social security, and the public provision of goods and services. A background in microeconomics with calculus is probably required to fully appreciate the book’s important insights. But by eschewing formal derivations and focusing on verbal explanations of the main results, Kaplow expands the book’s potential audience and better enables readers to see how the many different policy conclusions fit together into an overall vision of a country’s system of optimal taxes and public expenditures. Questions can be raised about the choice of topics to emphasize and how the integrated view is employed. But the book offers a valuable roadmap to the voluminous research in normative tax theory, including not just the optimal tax framework developed by Diamond and Mirrlees (1971), but also research that has departed from this framework in many different ways. Careful readers should be rewarded with an understanding of both the triumphs of optimal tax theory and the remaining challenges.

REFERENCES


