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# PERSONAL INCOME TAXATION

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**Abstract**

This survey traces the literature on the three fundamental components of personal income taxation: base, unit and rates. It first discusses the debates between income tax base and consumption tax base in a chronological order, starting from Simons, and continuing up until the law and economics literature in the 1990s. The chapter then reviews recent law review articles on tax units. Finally, it examines discussions on progressive rate structures. This article finds a distinct shift in appproach, due to the emergence of optimal tax theory.
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## 1. Introduction

Taxation is an 'old' area of law and economics studies. It has been studied by economists as an important area of public finance as well as by lawyers as an integral branch of law governing private property. Thus, personal income taxation, especially after its emergence as a major revenue raiser in industrially developed countries, could be called one of the oldest research subjects in law and economics.

Indeed, the modern concept of comprehensive income can be traced back to Schantz (1896) who, based on the ability-to-pay (Leistungsfaehigkeit) tradition of tax theory, argued against his predecessors by defining income broadly as the increase of net assets during a given period. It is well known that his conception was well received on the other side of the Atlantic. It was refined by Haig (1921) and Simons (1938). Particularly the latter laid down a conceptual foundation of personal income taxation in the US, refuting the Fisherian concept of income as consumption.

On the other hand, lawyers' inquiries into issues of personal income taxation have differed from country to country. It is by no means the US that has produced the richest volume of academic work on the law and economics concerning taxation. In Germany, legal scholars traditionally have been remote from law and economics studies. Although Germany is the mother country of Adolf Wagner and Georg Schantz, capital gains from personal property have been excluded from the taxable income of individuals, which is a significant deviation from the comprehensive income principle. The UK has traditionally adhered to a schedular system of personal income taxation, rather than comprehensive conception of income; tax lawyers are trained in an environment where they tend to view income tax as a set of various levies on transactions, rather than a personal tax on a single base. In Japan, lawyers began a systematic research on income taxation after the 1949 Shoup Recommendation (for a synthesis, see Kaneko, 1995), and their interest has been recently bolstered by developments in law and economics studies in general.

## 2. The Scope and Structure of this Survey

Given the long history of tax research and the variety of studies taking place in different regions, it is impossible to introduce all the major works on the subject; by its very nature, the quest for creating an academic inventory has to be partial. Instead of being exhaustive, this chapter shall trace those articles, mainly written in English, which aroused salient debates on the three fundamental components of personal income taxation: base, unit and rates.

Accordingly, the chapter proceeds as follows. Part A will trace the major debates between income tax base and consumption tax base in chronological order, starting from Simons (1938), and continuing up until the law and economics literature in the 1990s. Part B will review recent law review articles on tax units. Part C will examine the literature on progressive tax rate structures. Part D will conclude briefly.

The line taken here is basically within the ET (equitable taxation) paradigm (Musgrave, 1976) in the sense that personal income tax versus consumption tax is contrasted as measures of equitable taxation. However, it is necessary also to introduce the OT (optimal taxation) perspective, since recent articles increasingly employ the OT analysis.

For a convenient anthology of these articles, see White (1995), Baker and Elliot (1990), and McIntyre, Sander and Westfall (1983). The impact of OT perspective is discussed in Cooper (1994).

## A. Base

### 3. Origins

In the late nineteenth century, researchers started to discuss the concept of income as a basis for personal taxation. The various concepts of income of the time were reviewed by Wueller (1938a, 1938b, 1939) as belonging either to an 'accrual type', which focuses upon inflow, or to a 'disposition type', which focuses upon expenditure or disposition.

The latter type of definition was put forward by Irving Fisher, and represents an alternative stream within following discussion. It was advocated most notably by Kaldor (1958), who elaborated an expenditure tax design. However, expenditure tax was considered unpractical until recently. The 'accrual type' income concept has many varieties. Without going into preceding constructions, let us start directly from Henry Simons whose formulation dominates the following debates. For readers interested in a historical review of the scholarly works of this period, McCombs (1990) gives a good summary of discussions by Haig, Hewett, Simons and Vickrey. For analyses of Simons' value judgement, see Hettich (1979), Kiesling (1981) and Long (1990).

### 4. The Impact of Henry Simons

Simons (1938) measured personal income as 'the algebraic sum of (1) the market value of rights exercised in consumption, and (2) the change in the value of the store of property rights between the beginning and end of the period in question'. The essential feature of this formulation is that it defines income as gain to someone during a specified time period. The definition is comprehensive in the sense it does not make any distinction according to source or recurrence; it includes income in kind, gratuitous receipts such as gifts or bequests, and capital gains. Simons saw the comprehensive income as an appropriate tax base for persons, since, by this construction, taxes may be distributed to persons in an equitable manner, especially using a graduated rate structure. Simons' book covered most of the basic issues in personal income taxation, and his initial definition is modified in order to account for the implementation needs in the real world.

Although never fully implemented in any country, Simons' concept of income became an analytical framework commonly used by researchers especially in the Anglo-Saxon tradition. This was especially true in the US after the Second World War, where numerous casebooks of Federal Income Taxation were compiled with an emphasis on the concept of income as it appeared in legal rules and court cases. Surrey (1973) was one of the most prominent proponents of comprehensive income taxation, arguing that the concessions to deviate from the normal income tax structure constitutes another form of subsidy - the so-called ‘tax expenditure’. Based on this idea, the tax expenditure budget was introduced in 1974. Surrey and McDaniel (1985) traced the development since 1973 of the tax expenditure concept, considering its impact on budget policy, on tax policy and administration, and on government decisions between using tax expenditure or direct spending to implement subsidy programs.

It is noteworthy that the idea of comprehensive income taxation as developed elsewhere, too. In Japan, Kaneko (1966-75) carefully traced the various concepts of income by public finance economists and, based on his detailed comparative survey on the legal systems in various countries, applied the comprehensive concept to the Japanese positive tax law on the issues of realization, imputed income, and illegal income.

## 5. Comprehensive Tax Base Debate

During the same period when proponents of comprehensive income taxation were making efforts to streamline the tax system, growing dissent was emerging, and culminated in the so-called comprehensive tax debate of the late 1960s. The debate was started by Bittker (1967), who argued that a neutral, scientific measure of taxable income is a mirage (for his earlier examination of personal expenditures, see Bittker, 1973). Bittker argues that the concept of Haig-Simons economic income yields no help in many of the contentious areas of income definition. Based on this observation, he concludes that there is no touchstone for tax reform: proposals must be considered provision by provision and policy by policy, on their own particular merits.

Bittker’s penetrating criticism invited rejoinders from the proponents of comprehensive income tax such as Musgrave (1967), Pechman (1967) and Galvin (1968). The debate made clear that in many senses the existing income tax base inevitably departed from a pure concept of comprehensive income and that the concept itself has vague outer boundaries. However, Bittker was not formulating a systematic alternative, which may be a reflection of his agnosticism towards the foundations of tax policy. This explains why Surrey, despite Bittker’s criticism, was able to institutionalize a tax expenditure budget after the debate.

**6. Andrews' Breakthrough**

It did not take long for an alternative construction to come to emerge in discussion. Two works by William Andrews changed the landscape of the debate. While agreeing that it is useful to evaluate departures from an ideal income tax as tax expenditures, Andrews (1972) maintained that the ideal for this purpose must be carefully stated and worked out to embody the intrinsic objectives of the tax. Starting from the Simons' formulation, Andrews argued that an ideal income tax is one in which tax burdens are apportioned to a taxpayer's aggregate personal consumption and accumulation. Focusing on the consumption component of the tax base, he contended that there are persuasive reasons why the concept of personal consumption for tax purposes should be elaborated in a way that excludes medical services and whatever satisfactions one obtains from making charitable contributions. One is struck by Andrews' careful reading of the Simons' formulation, distinguishing the consumption and the accumulation components of the personal income tax base. By showing that an exclusion of the accumulation component from the income tax base delivers a graduated personal consumption tax, Andrews paved the way for a renewed discussion of tax on personal consumption.

Andrews (1974) extended this analysis further. He asserted that the worst inequities, distortions and complexities in the present tax, and the most intractable difficulties in approaching the accretion ideal, have essentially to do with the accumulation component of accretion. He therefore urged that consideration be given to an alternative ideal in which personal taxable income would be computed on a simple cash flow basis to reflect only personal consumption, with accumulation in the form of business and investment assets being comprehensively eliminated. He showed how pursuit of this would produce a substantial net simplification of the tax as well as a fairer and more efficient distribution of tax burdens. Unlike Bittker, who tended to take a piecemeal approach, Andrews was able to build on a conceptual framework based on the economics of time value of money, an essential analytical tool for the accumulation component of the income tax base.

Andrews' work was a breakthrough: while the earlier version of the consumption tax scheme required computation of borrowing, dissaving and imputed income from assets, his prepayment system simply exempts the yield from capital, arriving at the consumption component by deducting the accumulation portion from the tax base. Moreover, Andrews successfully showed that the existing personal income tax is a hybrid of the consumption and accretion models in relation to accumulation, and his diagnosis became accepted by tax theorists and policymakers alike, regardless of their positions for or against his specific proposals for reform.

**7. Income or Consumption?**

Recognizing that the existing personal income tax is a hybrid, opinions diverged whether to pursue a comprehensive income tax ideal or a consumption tax ideal. In the debates that followed, several factors were posited and examined, such as fairness, efficiency and administrative feasibility.

On the fairness issue, Warren (1975) suggested that the neutrality of the consumption-type tax is obtained at the cost of allowing income from wealth to escape taxation. Finding the consumption-based tax to be analogous to a tax on wages alone, Warren rejects it as an insufficient compromise in regard to the various legitimate objectives of a basic tax system. To this, Andrews (1975) replied that Warren's observations do not refute the conclusion that a consumption-type tax would be fairer, pointing out important differences between a wage tax and a consumption-type personal income tax. To Andrews, an income tax, even a true accretion-type tax, was a deficient device for attacking disparities in wealth. Five years later, Warren (1980) further evaluated the arguments that have been advanced in favor of the consumption criterion being superior to the income criterion. He concluded that while either tax can be justified as a means of implementing a plausible principle of distributional equity, the case for superior fairness of the consumption tax is not persuasive on its own terms. Fried (1992), provisionally setting aside the Hobbesian foundational argument that asserts wealth ought not to be regarded as appropriated for private purposes until withdrawn for personal use from the common pool, focused on the unfairness argument of taxing returns to capital per se. She distinguished three theories implicit in the arguments for exempting the return to capital: (1) returns to capital should be exempted as a means of perfecting the income tax; (2) they should be exempted as a means of implementing an endowments tax; and (3) they should be exempted to preserve the relative pre-tax welfare of savers and spenders. Her conclusion was that none presents a persuasive case for the greater fairness of a consumption tax.

On efficiency, economists are almost unanimous in holding that an income tax base discriminates against savings and favors current consumption, whereas a consumption tax base is more neutral as regards the saving decision of individuals. On administrative feasibility, Graetz (1979) applied his general analysis of legal transitions to the issue of substituting a progressive consumption tax for income tax, and suggests that the obstacles to implementing a progressive personal tax on consumption would be substantial, but not prohibitive. Given practical difficulties, however, he warned that proponents of an expenditure tax should be required to demonstrate that its claimed advantages in terms of equity and economic efficiency are real and cannot be achieved in a simpler fashion. He asserted that unless and until this burden of proof is met, replacing the income tax with a progressive personal tax on consumption should remain low on the list of political priorities, and that the principal utility of expenditure tax analysis should continue to lie in illuminating issues of income taxation and increasing the understanding of tax policy. Shachar (1984) examined the issue of transition, proposing that changes in the tax treatment of both assets and liabilities must be considered on a case-by-case basis in order to determine which type of transition rule would place the tax burden on the superior risk bearer. He pointed out that transition rules are necessary to avoid windfalls and double taxation. Serious debates in academic and policy circles followed between income tax proponents and consumption tax proponents (Pechman, 1977; Gulper and Pechman, 1980; Aaron, 1988; and Marshall and Wells, 1993). Some tried to pave the way to an income tax model (Gunn, 1979; Shakow, 1986; Fellows, 1990), while others urged the move to a consumption tax model (Institute for Fiscal Studies, 1978; Bradford et al. 1984; and Bradford, 1986). Nakazato (1991a) supported the consumption tax base from a lifetime perspective, arguing that Simons' income artificially limits the time range of base measurement, that the traditional equity justification of Simons' income lacks grounds, and that the consumption tax base is neutral in the time preferences of individuals.

## 8. Extension

In the meantime, the relevance of a comparison between income and consumption tax bases was questioned by Strnad (1985). Strnad argued that in a non-general-equilibrium setting where the effect of taxes on pre-tax prices is not included in the analysis, the cash-flow income tax and not the traditional income tax implements the Haig-Simons ideal; thus, the generally accepted income tax analyses of activities as disparate as corporations investing in machines, individuals contributing to pension funds, and businesses financing their operations by debt have no theoretical basis. Strnad's sensational reappraisal was rejected by Kaplow and Warren (1986), who demonstrated that Strnad's conclusion that a cash flow tax properly implements a tax on 'income' is a correct, but tautological, derivation from the starting point of Strnad income, which is not the same as Haig-Simons income. Popkin (1986) agreed with Kaplow and Warren in that Strnad's conclusion rests on a definition of the Haig-Simons ideal that already contains a bias in favor of the consumption tax. Further he added that the Strnad version of the Haig-Simons definition is defective on basic fairness grounds because it adopts a mistaken view of when a taxpayer has fairly discharged a tax obligation to the government. Strnad (1986) and Strnad (1987) are replies to Popkin and to Kaplow and Warren respectively. Strnad (1990) dealt with the question of 'periodicity' - how often changes in value should be assessed and taxed - in the context of implementing accrual taxation. Despite heated debates and strong criticism, the robustness of income tax idea proved itself in the real world. The US Department of the Treasury (1984) opted for an expansion of the income tax base with a less graduated rate structure, which became a basis for the 1986 Reagan Tax Reform. In the late 1980s, similar tax reforms with base-broadening and rate-flattening followed in other countries, although no country ever switched completely to a consumption tax structure. The income tax system remains a hybrid. It has not been perfected as a pure accretion model, nor has it undergone a complete change to a consumption tax model. From his perspective as a political scientist, Witte (1985) attacks Simons' position as ultimately resting on an unclear set of value premises, but still defends a comprehensive income tax on pragmatic grounds such as revenue capacity, administrative efficiency, certainty, simplicity and legitimacy, rather than by traditional value criteria such as fairness and efficiency. While casting a doubt on the future of income taxation, Isenberg (1990) rejects the adoption of a personal tax on consumption, and opts for a value added tax which is essentially a tax on firms. Noting the near consensus among economists that long-term growth would be less hampered by additional taxes if they fell on consumption rather than on income, Graetz (1992), nonetheless, cautions against a broad-based tax on consumption, instead advocates a tax on energy consumption.

## 9. Enter Optimal Taxation

For traditional income tax idealists the hybrid system may seem like a stalemate, but for newer generations the hybrid tax is already a given. Discussions in 1990s tend to focus on the policy evaluation of specific rules and provisions within the hybrid tax framework, but made little direct normative assessment over the appropriateness of either tax base. Underlying this newer work is the emergence of the optimal tax framework and the elaboration of finance theory. McCaffery (1992) argues that one should accept the fact of a hybrid income-consumption tax and begin to examine how best to structure it. Dividing savings into three categories (life cycle, precautionary, and bequest savings), McCaffery contends that because of the different values one places on the different types of savings, some form of a hybrid may in fact be ideal and not merely a practical necessity. Although more empirical work and normative exploration is necessary, his work exemplifies a new trend of discussion on an old issue. Knoll (1994) seeks to direct scholarly attention towards large-scale redesign of the hybrid, away from both marginal improvements in the existing hybrid and the debate over whether there should be an income tax or a consumption tax. He describes and evaluates three hybrid taxes. A blended hybrid, which would reduce the tax rate on investment income, is rejected because of the impossibility of allocating returns between capital and effort and among various investments. A simple hybrid, which would supplement economic depreciation with an immediate write-off of a given fraction of the investment, and a COCA (Cost of Capital Allowance) system, which would supplement economic depreciation by providing a deduction based on the undepreciated portion of a taxpayer's assets, are held to serve as models for comprehensive reform.

Significance of risk rather than deferral is articulated by Bankman and Griffith (1992). By reviewing historical data, they reveal that substantially all of the real return realized on investments during the past 60 years has been attributable to investment risk, and contend that thus it is appropriate to center the income versus consumption tax debate on the way in which the two tax bases treat risky investments, rather than the way the two tax bases treat interest (interest being defined as the inflation-adjusted return on riskless assets). According to their analysis, taxation of risk premia is much less troublesome than taxation of interest, because many taxpayers will be able to offset the effects of taxation of risk premia by increasing the proportion of risky assets in their portfolios, and because such taxpayers will not be disadvantaged by an income tax. On the other hand, Bankman and Griffith conclude that taxation of risk premia without full loss offsets will disfavor investors in risky assets and raise efficiency concerns. While previous analyses have focused on the time value of money aspect, Bankman and Griffith have highlighted the way in which risk matters.

The conceptual weakness, even as an analytical tool, of the Haig-Simons definition of income as a first-best tax principle is revealed by Shaviro (1989b). Shaviro defines as selective limitation of tax benefits those provisions in the Revenue Code that, in response to preferences and resultant income undermeasurement, make certain tax benefits conditional on the character or amount of other items on the taxpayer's return. He argues that such selective limitations cannot be analyzed solely through the consideration of first-best tax principles, notably the Haig-Simons definition of income, and that the question gives rise to second-best issues that have a discernible theoretical structure with identifiable tradeoffs but are indeterminate in the absence of empirical information. Shaviro (1990) shows the similar indeterminacy of the Haig-Simons definition of income in the measurement of taxable consumption. Shaviro (1992) makes an efficiency analysis of the hybrid tax system and argues that the main advantage of realization and recognition rules, as compared with no tax at all even upon realization, is that they may tend to equalize the ex ante expected taxes from alternative activities or investments. Appeal to definitions, which has been the basic communication code of the income versus consumption tax debate, is set aside by Kaplow (1991), who views that debates about definitions cannot give meaningful guidance to policy unless informed by the objectives underlying the definitions. Kaplow prefers evaluating directly the effects of possible tax rules on individuals' well-being. He reconsiders the justification for casualty loss and medical expense deductions, taking into account the availability of private insurance. He argues that when individuals can insure, the second level of insurance implicit in the casualty loss and medical expense deductions has undesirable effects on consumption choices and insurance decisions: individuals may be more exposed to losses because of tax deductions commonly believed to mitigate them. He concludes that, given the option, individuals would prefer a regime that eliminated the deductions and offered correspondingly lower tax rates. His later work (Kaplow, 1994) is another example of his contribution by the use of direct explorations. Here he shows the arithmetic interchangeability between standard deduction and floors.

Zolt (1996) examines the case for uniform taxation on efficiency and equity grounds. He concludes that neither economic theory or equity considerations require uniform treatment. He contends that even if we could devise rules that taxed 'appropriately' such items as unrealized gains, imputed income, or government services, we may still be able to achieve efficiency and equity gains using tax treatment that varies by type of income or type of taxpayer. He carefully adds, however, that the desirability of the use of nonuniform taxes likely varies among countries and over time.

### 10. Paradigm Shift

Recent law and economics contributions to the debate thus reflect the mainstream intellectual trends in public sector economics which have leaned away from the traditional ET paradigm and towards the OT framework. It is an interesting question if and how this academic work will have an impact on real-world policymaking.

## B. Unit

### 11. The Choice: Individual, Marital, or Family

In order to measure income during a specified period, it is necessary to identify whose income is in question. Simons (1938) seems to have advanced his theory on the assumption that natural persons should be taxed as isolated individuals. His approach is a logical consequence of methodological individualism. Others may view persons as social beings whose family ties affect their taxpaying capacity. Underlying this view is the rejection of naked individualism in favor of a conception of 'self' which is encumbered with communal conditions.

Personal tax units may be designed as based on either of the following: individual, marital, or family. Which system to adopt has been long discussed in many countries, producing numerous legislative movements. For a comparative survey, see Pechman and Engelhardt (1990), and Kaneko (1996b).

Among OECD countries, the design of tax units differs from country to country: some adopt an individual unit system (Australia, Canada, Denmark, Italy, Japan, the UK, and Sweden), some employ a marital unit system (Belgium, Germany and Spain), and others have a family unit system (France and Luxembourg). The US provides multiple tax rates for (1) single individuals, (2) married individuals filing joint tax returns and surviving spouses, (3) married persons electing separate tax returns and (4) heads of households. In addition to the diversity of treatments among different countries, systems in each country often have undergone numerous changes.

The discussion of tax unit has multiple facets because it is a reflection of how one views a family, a very controversial institution in our swiftly changing societies. The difficulty of finding common ground is aggravated by the fact that the treatment of a family under personal income taxation is related to all three of the fundamental elements of taxation: base, unit and rates. For example, within an individual unit system, personal deductions could be introduced to make adjustments according to the family status of an individual. Moreover, many legal issues concerning family taxation are inherent to progressive rate structure.

## 12. Early Discussion

Although recognizing the aforementioned difficulty, Oldman and Temple (1960) tried to illuminate the guiding policies for the design of tax units. With a detailed description of the systems then in operation in the Philippines, UK, Sweden, Canada, US and the Netherlands, Oldman and Temple supported the marital unit system as a more reasonable choice than the individual unit system in light of economic realities and administrative feasibility. In so doing they suggested the following: (1) a married couple with only one spouse having an income should pay a greater total tax than a married couple with both spouses working, assuming both couples have the same total income (imputed income from household services); (2) the dual-income couple should pay a greater total tax on its two incomes than would be paid by two single persons with corresponding incomes (economic advantages of joint living); (3) one single person should pay the same or a greater tax than the married couple with one income (the advantages of joint living are never so great that two can live more cheaply than one).

Bittker (1975) questioned the validity of these guiding policies. He demonstrated that it is impossible to have (a) progression, (b) equal taxes on equal-income married couples, and (c) a marriage-neutral tax burden. In discussing the relative tax burdens of married couples and other taxpayers, he examined whether the assumptions of commentators, such as marital burden of supporting a spouse, economies of scale, and unpaid household services, would hold in reality. He concluded that theoreticians, regardless of their backgrounds, be it economics, anthropology or sociology, cannot 'solve' the problem of taxing family income; they can only identify the issues, point out conflicts among objectives, propose alternative approaches, and predict the outcome of picking one route rather than another. Having performed these functions, the expert must give way to the citizen, whose judgments can rest on nothing more precise or permanent than collective social preferences. Bittker thus exposed the fundamental dilemma between neutrality among couples and neutrality on marital decisions under a progressive income tax. No commentators since have been able to escape this dilemma.

In the face of controversy surrounding the treatment of the family in federal income tax, McIntyre and Oldman (1977) developed a normative model for the taxation of the family based on the ideal of a comprehensive tax base. From this ideal, they suggested a program for reform in which tax burdens would be distributed in accordance with practical estimates of the monetary income enjoyed by individual taxpayers.

**13. Divergent Family Models, and a Look at Behavioral Response**

Although the debate in the 1970s seemed to have led to a fairly widespread consensus that the married couple is an appropriate tax unit, in the 1980s more emphasis was given to the aspect of marriage penalty, rather than the aspect of non-neutrality among couples.

Gann (1980) argues that a marriage-neutral income tax system under which all individuals file separate returns under a single rate structure is the most defensible position in the long run. Gann (1983) criticizes the earned income deduction provisions introduced in the US by the 1981 Act, urging that the earned income deduction cannot be supported on an equity criterion of marriage neutrality, although noting that it produces some efficiency gains.

Kornhauser (1993) examines the premise that married couples share or pool their incomes. She surveys the changing concept and reality of the 'family' and examines several empirical studies that address the issue of the allocation of financial resources between members of a couple living together. Her findings are: not all couples pool assets; that pooling is not confined to married couples, and separation of assets is not confined to non-married couples; that financial arrangements sometimes change during the course of the relationship; and that even among those couples who claim they pool, the non-earner spouse often does not have equal access to assets. Based on this evidence, she argues that the joint filing system is unfair, because it is both under-inclusive (barring some unmarried poolers from its benefits) and over-inclusive (bestowing its benefits on non-pooling married couples).

McCaffery (1993) explores how the tax laws provide behavioral incentives that affect three types of decisions: whether to marry, whether to form a one- or a two-earner household, and whether to work full or part time. He finds that tax laws contribute to the marginalization of women in the workplace, and that they impede a more creative formulation of alternative models of work and family. Pointing out strong class dimensions in the actual patterns of effects, he urges to take steps to put one- and two-earner families on an equal footing. He thus argues a case for altering the basic rate structure to provide significantly lower, even negative, rates for secondary earners, financed by higher rates on primary earners. McCaffery's approach was to focus on behavioral incentives, where traditional tax policy analysis looked at distributive burdens. McCaffery (1997) is a synthesis of his research based on this approach.

Struggling with the dilemma posed by Bittker, Zelenak (1994b) argues that American society at the end of the twentieth century would be better served by separate returns, predicting that the joint return system will eventually disappear, the only question being when.

Nakazato (1995) applies Gary Becker's theory of productive consumption to the treatment of households under the comprehensive income tax model, examining income transfer, imputed income and leisure within a family. He concludes that tax units and income deductions do not provide a satisfactory solution, and that full implementation of a comprehensive income base under an individual unit system would approximately achieve tax neutrality towards the organization of a household. The design of tax units and of various deductions and credits within a household has another dimension: its role as an instrument of welfare and family policies. Alstott (1995) examines the role of tax system in welfare programs, arguing that the case for the EITC (earned income tax credit) has been oversimplified in two significant ways. First, the conventional policy debate over the EITC's behavioral incentives has been framed too narrowly. Second, the EITC, as a tax-based income-transfer program, faces inherent institutional constraints not present in traditional welfare programs. These include problems of inaccuracy, unresponsiveness and noncompliance that are inherent in tax-based administration.

## 14. Expansion of Arena

In sum, recent studies embody analyses of people's behavioral responses to the structure of tax units, as well as wider examinations of family taxation in interaction with social and welfare policies.

## C. Rates

### 15. The Conundrum Concerning Progression

The most significant issue on the tax rates of personal income tax is progression. The progressive tax rate structure is one component of the progressive tax mechanism, and the overall progression of the tax is dependent on all three elements of personal income taxation: base, unit and rates. Simons (1938) recognized this, arguing against the theory of declining utility and examining the case for redistribution of income and wealth in its own terms.

The support for redistribution and for progressive taxation as a means to more economic equality was strong among New Dealers. One example is Vickrey (1947), who proposed an agenda for progressive taxation: he devoted a chapter on the graduation of taxes, examining the methods of graduation, the choice of graduation curves, the use of mathematical formulas, and the size of tax brackets. Throughout the decades after the Second World War, the patterns of Federal Income Tax legislation in the US were consistently progressive.

### 16. The Uneasy Case

It is ironic that Blum and Kalven (1953), the most widely acknowledged academic work on the issue of progression, claimed that the case for progressive taxation is uneasy. They traced various affirmative arguments for progressive tax on all incomes over a minimum subsistence exemption, looking at: (1) maintaining economic stability and a high level of business activity; (2) taxes levied in accordance with the benefits received; (3) the declining utility of money (sacrifice theory); and (4) mitigating economic inequality. They also examined the implications of exemptions on the case for progression, and considered whether any of the preceding analysis of the merits of progression would be affected by considerations regarding how the government spends the tax money that it collects. They concluded that the case for progression turns out to be stubborn but uneasy. Galvin and Bittker (1969) made several points in support of a progressive federal income tax rate structure. They note that (1) if the case for progression is ‘uneasy’, so too is the case for a proportional rate schedule; (2) progression in federal income tax serves to counterbalance the regressive tendencies in other federal, state and local taxes; (3) progression is an inevitable consequence of allowing personal exemption in computing income tax liability; (4) economic security increases more than proportionately as one moves up the income scale; (5) benefits of government expenditures increase progressively with income and wealth; and (6) progressive tax rates serve as a measure to reduce economic inequality, fitting comfortably within the forms of democratic capitalism.

### 17. Flat Tax and the Optimal Taxation Framework

It was not until the 1980s that the progressive rate structure was overhauled. Various proposals were made to make the personal income tax rates flat in the US Congress. The 1986 Tax Reform reduced the number of brackets and the top marginal income tax rate significantly. Subsequently, rate cutting, coupled with base broadening measures, became a worldwide trend in tax reform in other countries. Graetz (1983) addresses the problem of the transition to a flat-rate tax, arguing that the minimum tax amendments of the 1982 Act in the Internal Revenue Code constitute a transitional mechanism that can be regarded as a first step to phasing in a broad-based tax. Hall and Rabushka (1995) propose a flat-tax plan under which all income would be taxed once at a uniform rate of 19 percent, based on the consumption tax principle. O'Kelley (1985) describes how adopting a flat rate comprehensive income tax that uses personal exemption could result in tax burdens substantially more progressive than under the then current system, arguing for a personal exemption equal in amount to the minimum wage, and for integrating the income tax and the social security systems.

Bankman and Griffith (1987) re-examine the traditional economic arguments against progressive taxation from the perspective of distributive justice. They critically analyze both the labor-related efficiency costs of progressive taxation, and the traditional arguments that progressivity imposes significant administrative costs, promotes misallocation of capital, and increases tax evasion. They go on to describe an optimal tax model for calculating the most desirable tax rate, balancing the costs of progressivity against possible gains from redistribution. Their model suggests that under most welfare theories, the optimal tax rate should be progressive, but not confiscatory, and that a progressive tax is best implemented not in the form of graduated or rising marginal rates, but rather through a combination of cash grants and constant or even declining marginal rates.

## D. Conclusion

### 18. From Definition to Numbers

This chapter briefly reviewed the existing literature on personal income taxation. Overall, the survey shows a shift in approach, which broadly involved a change 'from definition to numbers'. Traditionally, the main interests of researchers were how to define the concept of income, how to structure an appropriate tax unit based on taxpaying capacity, and how to design the rate according to some intuitive notion of vertical equity. More recently, with the emergence of optimal taxation theory, discussions are beginning to focus on the implications of social welfare functions, and on the market responses to particular tax rules. Looking at the names of authors cited, one may note that this intellectual shift is due to the advent of new generation of law and economics scholars armed with analytical devices which connect policy discussions directly to normative criteria such as equity and efficiency.

Personal income taxation has strong connections with other elements of human behavior, including the formation of human capital, the choice between labor and leisure, the investment decision, the compliance and evasion of legal rules, and the geographical location of resources. Hereby, personal income taxation is but one aspect of a larger inquiry into the connection between law and human behavior. As such, interested readers should consult other chapters in this volume relating to the family, finance, labor, social security and administration.

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