

Taxation of Capital Income in a Global Economy: An Overview

The market mechanism alone cannot perform all economic functions; in every country, government tax and expenditure policies are called upon to fulfill allocation, distribution, and stabilization functions (Musgrave 1959). That is, governments provide social goods, where the presence of externalities would produce inefficient private market outcomes, and they create and sustain the regulatory and legal framework within which private transactions occur; they adjust the distribution of income and wealth to assure conformity with society's view of fairness and justice; and they use budget policy to promote high employment and price stability.

Economists and social philosophers since Adam Smith have expounded on what the requirements for a "good" tax structure should be. All agree that a good tax should be fair; often this argument is couched in terms of horizontal and vertical equity, which means simply that people with equal capacity should pay the same tax, while people with greater capacity should pay more. A good tax should also minimize interference with economic decisions; that is, it should not cause people to behave in ways that they would not otherwise. Finally, a good tax should have low administrative and compliance costs.

The requirements of a good tax structure become more severe in an international setting, as questions arise about an equitable distribution of revenues among countries and as the possibility of taxation by more than one jurisdiction creates both individual equity and locational efficiency problems. The taxation of income from capital is particularly challenging in a world where investments can easily flow across national borders.

This article provides an overview of the issues pertaining to capital income taxation in a global economy. It begins by exploring whether capital income should be part of a nation's annual tax base. After all, given capital's easy mobility in an increasingly open world, it would be simpler on administrative grounds to exempt this source of income from

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taxation. As it turns out, the most important consideration here is equity; a consumption tax would be fair only if gifts and bequests were included in the tax base. In view of the apparent reluctance of nations to tax wealth transfers, fairness requires the inclusion of capital income in the country's annual tax base.

Given that capital income should remain in the tax base and, in all likelihood, will continue to be taxed under both the corporate income tax and the personal income tax, the second section lays out the major concepts that emerge as the discussion moves from a closed-economy to an open-economy setting.

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It describes the inefficiencies and inequities that can arise through the simultaneous use of source-based and residence-based taxes and explores the extent to which these problems can be alleviated by credits, exemptions, and deductions.

The third section moves from concepts to the practical options for achieving improved harmonization of taxation in the European Community (EC). The discussion begins with a description of how the EC countries currently tax capital income and evaluates these provisions according to established standards of equity and efficiency. In taxing capital income earned in the corporate sector, each nation applies different rates, different bases, different withholding for cross-border flows, and different degrees of relief from taxation by more than one jurisdiction. The EC countries also provide varying degrees of relief from double taxation due to the combined impact of the corporate and personal income tax.

To remedy the inequities and inefficiencies in the existing structure, two major options are available. One involves retaining the current system of separate accounting, where each subsidiary is treated as an independent company, while reducing the divergence in rates and bases and improving the system of exemptions and credits. The alternative is formula apportionment, where the total income of a corpora-

tion is apportioned on the basis of sales, payrolls, and property. To provide an idea of how much progress is likely under each approach, this section describes the Ruding Committee proposals for reforms under separate accounting and the experience of the United States with formula apportionment.

Formula apportionment alone, however, does not eliminate opportunities for tax avoidance, since companies can still shift income among affiliated, but separately incorporated, companies. Given the increasing integration of companies within the EC, taxpayers will still have undue ability to manipulate their profits. With this problem in mind, the fourth section discusses the nuts and bolts of the "unitary" approach to measuring the apportionable income of a business, as practiced by some states in the United States.

The conclusion that emerges from this overview is that capital income taxation in a global economy is a necessary but challenging endeavor. In the short run, much can probably be gained by piecemeal reform that brings corporate tax rates and bases closer together. Eventually, however, disentangling the individual activities of subsidiaries of some multinational corporations located within the EC may become too difficult, and formula apportionment and perhaps some form of unitary combination merit serious consideration. By the time the EC is ready to adopt such a proposal, maybe the United States will have worked out all the kinks in this controversial system.

I. Does Capital Income Have to Be in the Tax Base?

The taxation of capital income creates enormous difficulties once the discussion moves from a closed-economy to an open-economy framework. Hence, one important question is whether a good tax system requires including capital income in the tax base. Answering this question involves looking at both the equity and the efficiency issues. Though most countries tax capital income under both a corporate income tax and a personal income tax, with varying degrees of relief for double taxation, ultimately all taxes are borne by individuals. Thus, it is meaningful to compare systems on a stylized basis by contrasting the equity and efficiency effects of a personal tax on consumption with a personal tax on income.

At first, it appears that equity could be achieved without resorting to capital income taxation, but

Table 1
Comparison of Income and Consumption Taxes in a Two-Period Model^a

Item	Income Tax		Consumption Tax	
	A	B	A	B
Year 1				
Wage Income	100	100	100	100
Tax	20	20	20	—
Consumption	80	—	80	—
Saving	—	80	—	100
Year 2				
Interest Income	—	8.00	—	10.00
Tax	—	1.60	—	22.00
Consumption	—	86.40	—	88.00
Total Tax	20	21.60	20	22
Present Value of Tax	20	21.45	20	20

^aThis table assumes a tax rate of 20 percent and a discount rate of 10 percent. Example based on discussion in Musgrave and Musgrave (1984).

adding real world constraints to the simple model suggests that capital income does need to be in the tax base. Taxation according to ability to pay requires the use of some index to measure capacity; the two most obvious candidates are income and consumption. In comparing the merits of the two approaches, advocates on both sides agree that the bases must be defined comprehensively. For the income base, this means that income should be viewed as the entire accretion to a person's wealth regardless of the source; from the use side, then, income equals the increase in net worth (or saving) plus consumption during the period. For the consumption base, comprehensiveness requires that all forms of consumption be included, whether they involve cash purchases or imputed consumption.

Assuming that economic activity is undertaken primarily for consumption, that is, ignoring a bequest motive, the merits of the two bases can be evaluated in terms of potential consumption. This criterion can be applied in a simple model where a person lives for two periods, working and consuming in the first and consuming the proceeds of the first period's saving in the second. Using this idealized system of lifetime taxation, the numerical example presented in Table 1 shows that the consumption base is superior on the grounds of horizontal equity; that is, those with the

same lifetime resources pay the same amount of tax. Under the income tax, however, savers are penalized and pay higher taxes over their lifetimes. Note also that, in this simple model, the consumption base is equal to a tax on wage income only, implying no need for capital taxation on equity grounds.

Several problems with implementing such an ideal system undermine the case for a consumption base. First, information is simply not available on lifetime consumption, so actual implementation under a system of progressive rates would involve constantly recalculating tax liabilities as new information became available. This makes a strong argument for calculating potential consumption on an annual basis, in which case income is the superior measure. Second, the lifetime perspective implies that all taxpayers have access to a perfect capital market, where they can borrow and invest at the same rate. In reality, lower-income people have more limited access; as a result, they will find the consumption tax very burdensome during those periods of the life cycle when consumption needs are high.

Last, and most important, is the issue of bequests. The simple example in Table 1 assumed that all income was consumed by the end of the second period; in fact, many high-income taxpayers leave substantial bequests to their heirs. Unless bequests were included in the donor's tax base, the wealthy would pay tax on only a fraction of their lifetime potential consumption.¹ The fact that most countries do very little in the area of wealth transfer taxation—that is, they tax bequests and inheritances very lightly—provides another argument for including capital income in the base of the annual levy.

In terms of efficiency, a lump-sum tax would avoid any distortion of economic decisions, but such a tax would fail on equity grounds. As argued above, an equitable tax will be based on economic activity and therefore will interfere with economic decisions and distort efficient choice. In choosing between consumption and income as a broad-based annual tax, the goal is to minimize the total amount of distortion. The key economic decisions affected are the choice between present and future consumption, that is, the saving (or investment) decision, and the choice between goods and leisure, that is, the employment decision.

¹ This result is based on a two-period model. Under a model with an infinite number of time periods, the full consumption base would eventually be taxed.

The essence of the problem can be seen by returning to the simple two-period model. Once again, the person earns wages (wL) and consumes (C_1) in the first period, and consumes saving plus interest (C_2) in the second. Using an equation rather than a numerical example, the relationship becomes

$$(1) \quad C_1 + \frac{C_2}{1 + (1 - t_r)r} = (1 - t_w)wL,$$

where t_w is a tax on wages and t_r is a tax on interest income. If $t_r = 0$, the levy is a consumption tax; if $t_r = t_w$, the levy is a flat rate income tax. The problem then becomes one of choosing t_w and t_r so as to minimize the distortion of the household's economic decisions while ensuring some specified total of tax revenue. This is a straightforward mathematical problem and the solution will involve the following relationship between t_w and t_r ,

$$(2) \quad \left(\frac{r}{1 + r} \right) t_r = \frac{t_w}{1 - t_w} \left[\frac{\sigma_{LL} - \sigma_{2L}}{\sigma_{L2} - \sigma_{22}} \right],$$

where the σ_{ij} are parameters describing households' preferences among first-period and second-period consumption, and labor. In other words, they are the compensated elasticities of the demand for future consumption and the supply of labor.

The consumption tax has the advantage of being neutral between present and future consumption, whereas the income tax discriminates against future consumption. The extent to which an income tax actually discourages saving depends on individuals' response to changes in the after-tax rate of return. Although economists generally agree that higher returns produce more saving, they have not reached a consensus on the magnitude of this response. An average of the extreme estimates for the United States (Boskin 1978; Howrey and Hymans 1978) would indicate that a 10 percent increase in returns would increase the private saving rate by 2 percent (say from 9.8 percent to 10.0 percent). In short, it probably has a relatively small effect.

The consumption tax avoids distorting the trade-off between present and future consumption by excluding savings from the tax base; the result of this exclusion, however, is that a consumption tax places a greater burden on earnings from labor than an income tax raising the same revenues. Again, the magnitude of the distortion will depend on the extent to which workers respond to changes in the after-tax

wage. Evidence for the United States indicates that prime-age males tend to be relatively insensitive to such changes, while women, particularly married women with children, tend to show somewhat greater responsiveness (Hausman 1985; Rosen 1976).

Since the relative magnitudes of the distortions, or "excess burden," created by an income tax and a consumption tax are not obvious, equity considerations dominate. Industrialized countries have a surprisingly unequal distribution of wealth holdings. In the United States, the wealthiest 1 percent of households controls almost one-third of net worth, and the top 20 percent holds 80 percent of the total; wealth surveys in other countries reveal very similar results (Table 2). Evidence suggests that, at least in the United States, bequests account for roughly 30 percent of accumulated wealth, and that the large fortunes are the result of the capitalization of extraordinary investment returns or bequests rather than the patient process of life-cycle saving (Aaron and Munnell 1992; Kotlikoff 1988; Modigliani 1988).

Society is unlikely to accept a tax system in which accumulators of wealth pay little or no tax. Exempting capital income from the tax base would be viewed as fair or equitable only if wealth transfers were taxed at comparable rates; this would ensure that all income eventually was taxed, either when it was consumed or when it was transferred. Table 3 shows that the revenues from wealth transfer taxes in the United States and most other countries are minuscule. Hence, most nations will want to retain capital income as part of their tax base.

This conclusion brings to the fore the focus of this article: how does one tax capital income in a global economy when capital can move easily across borders?

II. Taxing Capital Income in a Global Economy: Conceptual Issues

Moving the discussion from a closed-economy to an open-economy framework complicates the requirements of a "good" tax in the areas of both equity and efficiency. On the equity side, the challenge is to treat foreign and domestic investments similarly, to prevent taxpayers from avoiding taxes through international investment opportunities, to avoid double taxation arising from the imposition of corporate taxes by more than one jurisdiction, and to guarantee that revenues from taxes on cross-border transactions

Table 2
Wealth Distribution in Eight Industrialized Countries

Top Percent of Wealth Holders	Percentage of Wealth Held							
	France (1977)	Belgium (1969)	United Kingdom (1974)	Germany (1973)	Denmark (1973)	Sweden (1975)	Canada (1970)	United States (1983)
1	19	28	32	28	25	16	20	32
5	45	47	57	n.a.	47	35	43	55
10	61	57	72	n.a.	60	52	58	67
20	81	71	85	n.a.	75	65	74	80

Note: n.a. indicates not available.

Source: Aaron and Munnell (1992) based on data from Kessler and Masson (1987), Table 7.7, p. 153; and Board of Governors of the Federal Reserve System, 1983 Survey of Consumer Finances, machine readable data.

Table 3
Estate/Inheritance and Gift Taxes as a Percent of Gross Domestic Product

Year	Germany	France	Sweden	Canada	Japan	United Kingdom	United States
1965	.07	.20	.14	.39	.13	.80	.49
1970	.08	.25	.14	.31	.19	.73	.46
1975	.05	.27	.11	.09	.21	.29	.38
1980	.07	.23	.10	.02	.19	.20	.31
1985	.08	.27	.13	.01	.34	.24	.22
1986	.10	.30	.12	^a	.42	.25	.23
1987	.11	.34	.11	^a	.52	.25	.24
1988	.11	.38	.09	^a	.50	.23	.23
1989	.09	.38	.10	^a	.52	.23	.24

^aLess than 0.01 percent.

Source: OECD (1991b), Tables 41, 44, 45, 50, 57, 60 and 61; and OECD (1991a).

are distributed equitably among participating countries. On the efficiency side, the goal is to design a structure that minimizes the distortion in the allocation of saving and capital investment across countries. As in the closed-economy framework, a good tax in an open economy should also have low administrative and compliance costs.

In principle, most of these goals could be achieved by having all countries adopt the same rate and base for their corporate and personal income taxes. In practice, nations have very different preferences regarding the design of their tax structure and their required revenues.² As a result, the challenge is to find methods of tax coordination that produce equitable and efficient outcomes, while leaving room for diversity among national governments.

International Tax Concepts and General Practices

It is generally accepted that countries have a right not only to tax their own citizens wherever they live, but also to tax all income originating within their borders, including income accruing to domestic subsidiaries of foreign corporations. The rationale is that foreign-owned companies benefit from the public services and the protection of property rights provided by the host country. Thus, in an open economy it is necessary to distinguish between two alternative principles for assessing tax liabilities: the "residence principle" and the "source principle."

² It is also possible that varying elasticities of labor supply or saving could lead to different tax structures among countries.

Under a pure residence principle, residents of the country are taxed uniformly on their worldwide income, regardless of the source of that income; nonresidents are not taxed. In contrast, under a pure source principle, all income originating in a given country is uniformly taxed, regardless of the residency of the income recipient; residents are not taxed on income earned abroad. Some have suggested that taxes based on location of the capital (source-based taxes) could be viewed as investment taxes, while those based on the location of the owner of the capital (residence-based taxes) could be labeled as saving taxes (Summers 1988).

A source-based tax requires that each country establish rules to identify the income that was generated by activities within its borders. In the case of

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multinationals, the general practice in the EC is to treat each subsidiary as if it were a separate entity, and to calculate the entity's profit on the basis of receipts and costs related to activities within the jurisdiction. Multinational corporations, however, have an incentive to misrepresent prices of intracompany transfers in order to shift profits from high-tax to low-tax locations. To combat this incentive, the tax authorities have required adherence to the so-called "arm's length" principle, under which transactions within a corporate family must be priced in the same way as transactions between unaffiliated firms.³

In practice, most industrialized countries tax individuals according to the residence principle. That is, the home country taxes residents on all their domestic-source and foreign-source income, while the foreign country usually exempts nonresidents, or withholds at some minimal rate. (This broad definition of income includes in the personal income tax base dividends from both domestic and foreign corporations on which corporate income tax has already been paid.) With regard to corporations, most coun-

tries tax the income arising from all "permanent establishments" operating within their borders (OECD 1991d). In addition, they impose a withholding tax on dividends paid from these establishments to foreign corporations and to shareholders living abroad. At the same time, these countries impose the corporate tax on dividends repatriated from foreign subsidiaries.

Since countries use a combination of residence and source principles when taxing capital income, income from international capital flows becomes subject to double taxation. Realizing that double taxation will create distortions and inequities, countries have entered into a web of bilateral tax treaties. These treaties generally recognize the right of countries to tax all income from firms within their borders, and leave it to the home countries to alleviate the double taxation. A system of exemptions, credits, or (in the case of portfolio investments) deductions generally eliminates most of the excessive burden arising from capital income being subject to corporate taxation in two jurisdictions.⁴

Under the exemption approach, capital income from foreign investments is simply exempt from domestic tax. Procedurally, this usually involves calculating domestic tax on the corporation's worldwide income and then reducing the domestic liability by a fraction equal to the share of foreign-source income in the total.

Under the credit method, the home country calculates domestic tax on worldwide income and from this amount subtracts foreign taxes paid, to end up with net domestic tax liability. If the home country allows a full credit for all taxes paid in the foreign country, the resident corporation will pay the same tax rate on domestic-source and foreign-source income. On the other hand, if relatively low-tax countries limit their tax credits to the amount of domestic tax in order to prevent high-tax foreign countries from eroding domestic net revenues, their residents

³ As will be discussed later, the usefulness of the arm's length standard is limited, because in many situations comparable transactions among independent firms are difficult to find. Moreover, no single correct way exists to allocate common overhead costs among different subsidiaries.

⁴ In addition to alleviating the international double taxation, EC countries also generally provide relief for the taxation of capital income at both the corporate and personal levels within the jurisdiction. They do not, however, offer any relief in the case where capital income is subject to corporate income tax in one jurisdiction and the distributed dividends are taxed again at the personal level in another jurisdiction.

will pay a higher tax on their foreign-source income than on their income from domestic sources.

One other important feature of the credit is that countries using this approach usually defer taxing income from foreign subsidiaries until the income is paid as a dividend to the domestic parent company. This means that profits of foreign subsidiaries that are kept abroad are taxed only by the source country. The deferral creates a strong incentive to postpone the repatriation of foreign subsidiary profits.

The deduction method is generally applied only implicitly, and then only to foreign portfolio investment. When residence countries tax dividends on foreign portfolio investment, they are taxing only after-tax profits, which is equivalent to deducting the foreign tax from the domestic tax base. If the foreign government applies a withholding tax against these dividends, the residence country provides relief for the withholding through a credit.

This array of exemptions, credits, and deductions means that, despite international double taxation, countries should be able to end up with equitable and efficient tax systems.

Equity Considerations

To ensure equity among countries, the simplest approach would be for national governments to impose a source-based tax at a common rate. The source nation has prior claim to all income generated within its borders, and a fair distribution of the gains generated by capital flows can best be achieved by a corporate income tax imposed at a common flat rate on a relatively uniform base.⁵ Interjurisdictional equity does not require any withholding taxes on dividends paid to individuals, nor should dividends transferred from a subsidiary to a parent corporation be included in the parent's income (Musgrave 1987).

Taxpayer equity requires a personal income tax levied on global income; only the country of residence is in a position to tax this comprehensive measure of economic well-being. If the corporate and personal income taxes were fully integrated, the domestic corporate income tax would serve simply as a withholding tax and would be credited against personal income tax liabilities. With regard to foreign capital income, individuals would be required to include in taxable income not only dividends paid but also their share of the undistributed profits of foreign companies. (This provision, however, might be quite difficult to enforce in the absence of an international tax authority.) As for corporate taxes paid on divi-

dends distributed by foreign corporations, equity would require that the external corporate tax be credited against the personal income tax, just like the domestic corporate tax.⁶

If the corporate and personal income taxes are not integrated, interjurisdictional tax coordination becomes somewhat more complex. In this case, the corporate tax serves as a proxy for a tax on undistrib-

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uted corporate income, while imposing an additional tax on dividends. The tax, therefore, is a major component of individual equity; as a result, the common tax rate set for interjurisdictional equity may seem either too high or too low to the tax authorities of a particular country. This could be mitigated by some form of rebate or surcharge on distributed corporate profits, but over- or under-taxation would probably remain on undistributed profits, particularly in the case of foreign corporations.

Efficiency Considerations

In terms of efficiency, the lack of an integrated corporate and personal income tax creates a bias in favor of retaining earnings and against corporate as opposed to other investments, but these biases apply equally to foreign and domestic investments. Moreover, locational neutrality remains so long as the source-based corporate taxes are levied at the same rate across countries.

If corporate and personal taxes are not integrated and corporate tax rates are not equalized, several further efficiency criteria will be violated. Some of the

⁵ Slemrod (1990) also notes that source-based taxes are more efficient because enforcement costs are lower than residence-based taxes, since it is less costly to collect revenues on activities occurring inside as opposed to outside the jurisdiction.

⁶ Such a credit would also be required to ensure locational neutrality. Note that no inefficiencies arise from the corporate tax, since the rate is assumed to be the same across countries to satisfy the interjurisdictional equity requirement.

inefficiencies, however, can be eliminated by appropriate use of credits and exemptions. The choice of the instrument depends on whether the goal is to achieve capital export neutrality or capital import neutrality.

Capital export neutrality occurs when taxes provide no incentive to invest at home rather than abroad or abroad rather than at home. The method to achieve this form of neutrality depends on whether the goal of a country's tax policy is to maximize national income or global income. National income is defined as total pre-tax domestically produced income plus after-tax foreign source income. From the firm's point of view, the difference is between maximizing its income in the domestic economy as compared to maximizing its worldwide income. If domestic tax policy is geared toward national income maximization, the firm views foreign taxes paid as a cost of production and will compare its pre-tax domestic rate of return to its after-tax foreign rate of return in the production decision. In a global income maximizing tax scheme, the firm will compare its domestic pre-tax rate of return to its foreign pre-tax rate of return. Thus, capital export neutrality can be reached independent of domestic tax policy associated with national income maximization. In a global income maximizing scheme, a full tax credit must be allowed against the domestic tax liability for all taxes paid abroad.

In either scenario, capital export neutrality is a result of the equalization of pre-tax rates of return. Since marginal productivity of capital is reflected by pre-tax rates of return, capital export neutrality ensures equal marginal products and an efficient allocation of investment across countries. In other words, no further movement of capital could increase output because the marginal productivity of capital is the same in each country.⁷

Capital import neutrality is achieved when all suppliers of capital to a given market receive the same after-tax rates of return. Foreign investors will invest until the domestic marginal product of capital equals the after-tax world rate of return. In the domestic economy, capital imports will occur as long as the marginal product of the foreign firm is higher than the domestic marginal product. If source countries do not discriminate between domestic firms and foreign firms when taxing income and if residence countries exempt all foreign source income from taxation, this form of neutrality is attained. From the domestic nation's point of view, it is indifferent to a domestic firm investing or the foreign firm investing.

As a result of the equalization of after-tax rates of return across countries, an efficient allocation of savings is ensured. The after-tax world rate of return, which is determined through achieving capital import neutrality, is the rate at which households are no longer willing to trade present consumption for future consumption or future consumption for present consumption. This ensures that an efficient allocation of savings is attained.

Capital import neutrality also ensures that the most efficient producer undertakes a project, because

If corporate and personal tax rates on capital income were equalized across countries, capital import and capital export neutrality could be achieved simultaneously.

foreign firms are not burdened by a levy on worldwide income in their home countries. Therefore it is able to compete on equal footing with domestic companies. Capital import neutrality, however, does not guarantee an efficient allocation of worldwide capital.

As discussed above, if corporate and personal tax rates on capital income were equalized across countries, capital import and capital export neutrality could be achieved simultaneously. But such harmonization does not currently exist and is unlikely to emerge in the near future. Thus, the question becomes which neutrality countries should strive for. In part, it depends on the relative elasticities of saving and investment. If saving is relatively inelastic with

⁷ Capital export neutrality also leads to horizontal equity among taxpayers; two taxpayers in a given country with the same worldwide income would pay the same amount of tax, regardless of the division of total income between domestic and foreign sources. Aiming for capital export neutrality through a system of pure credits, with no limits and no deferral, also precludes multinational enterprises from manipulating their profits to minimize their taxes. Under the credit system, the multinational's tax bill will be determined by applying the domestic tax rate to worldwide income. Exemptions allow multinationals to lower their tax bill by shifting profits from high-tax to low-tax jurisdictions through transfer pricing.

respect to the after-tax rate of return, as suggested above, then governments should employ a system of credits that produce capital export neutrality and the optimal allocation of capital. If the converse is true, that is, if investment is relatively inelastic with respect to the cost of capital, then a regime promoting capital import neutrality will lead to less distortion.

This discussion suggests that the conclusions regarding efficiency must be very different in an open economy than they are in a closed economy. In a closed economy, economists generally agree on the following propositions that emerge from the optimal tax literature (Slemrod 1988). First, if the supply of capital is fixed, a general tax on capital will have no real effect on the economy and will not reduce efficiency. Second, if the supply of capital is fixed, a general tax on capital is borne entirely by the owners of capital. Finally, it does not matter whether a tax on capital is imposed on the saver or at the point of real investment; the difference between before-tax and after-tax returns depends only on the amount of tax, not on the location of the tax. Not one of these propositions holds once capital can flow across national borders.

The most fundamental difference in an open economy is that, even if the worldwide supply of capital is fixed, a tax that differentiates on the basis of the international location of capital does create efficiency costs once an economy is open to international capital flows.

Second, in an open economy, even if the worldwide supply of capital is fixed, the owners of capital will not necessarily bear the incidence of the tax. When the levy is imposed as a source-based tax, capital will move so as to equalize the return to capital around the world. As a result, the incidence of the tax will fall on immobile factors such as the taxing country's land and labor.

Finally, in an open economy, it matters where the tax is levied. In the presence of international capital flows, a tax on domestic investment is no longer equivalent to a tax on residents' saving. If a country levies a tax on the capital income of its residents—that is, imposes a saving tax—residents will not change the geographic allocation of their portfolio; they will continue to maximize returns in the same fashion as before the tax was imposed. Thus, a tax on saving generally does not change the international allocation of capital. On the other hand, if a country imposes a tax on investment within its boundaries, capital will flow out until the point where after-tax returns are equalized between that

country and others. Hence, where the tax is imposed will determine whether or not capital moves.

III. Taxing Capital Income in a Global Economy: Directions for Reform

Whatever complications are introduced into the theory by shifting the framework from a closed to an open economy, they pale in comparison to the practical issues faced by tax practitioners who attempt to maintain some taxation of capital income as barriers to capital movements disappear. The internationalization of financial markets and the increased importance of multinational corporations make it increasingly difficult to administer and enforce efficient and equitable tax systems.

Coordination is clearly required; the question is what form the coordination should take. One option is to maintain the current system, improve the mechanisms for avoiding double taxation, and reduce the disparities in member countries' bases and rates. The alternative is to consider some of the methods currently employed in federal countries, such as the United States, Canada, or Switzerland.⁸

Although a detailed exploration of all the options is not possible, this section will briefly sketch examples of the two major directions for reform. The first alternative is to retain separate accounting. Within that framework, the section explores the Ruding Committee proposals for the EC Members, in order to assess the realistic possibilities for tax harmonization under a system of separate accounting. The second alternative is to replace separate accounting with formula apportionment. Here we summarize the approach adopted in the United States, whereby state tax authorities divide up a corporation's total income on the basis of each state's share of the company's payroll, property, and sales.

⁸ These countries illustrate the variety of harmonization currently practiced by subnational governments. Virtually no harmonization occurs in Switzerland, where cantons apply widely varying, usually progressive, tax rates and define taxable income very differently. The United States is slightly more harmonized in that all states use apportionment formulas, but a great deal of variation still prevails in the formula, in the method of combination applied, in tax rates, and in the definition of taxable income. Provincial corporate income taxation in Canada is a substantially uniform system; most provinces use the federal definition of taxable income base and levy a single rate of tax, although a few have opted out of this system. For provinces in the system, administration is simplified since the federal government collects the revenue for them and then distributes it (McLure 1983).

Table 4

Taxation of Corporate Income and Dividends in the EC Countries, Japan, and the United States, 1991

Country	Treaty Countries			Non-Treaty Countries		Marginal Rates under Personal Income Tax	Integration between Corporate and Personal Taxes ^b
	Statutory Corporate Rate	Tax Treatment of Foreign-Source Dividends ^a	Withholding Rate on Repatriated Dividends	Tax Treatment of Foreign-Source Dividends ^a	Withholding Rate on Repatriated Dividends		
EC Countries							
Belgium	39 ^c	Exemption (90%)	5–15	Exemption (90%)	25	25–55	Reduction (S)
Denmark	38	Exemption	0–15	Credit	30	22–40	Reduction (S)
France	34/42 ^d	Exemption (95%)	0–25	Exemption (95%)	25	5–57	Elimination (S)
Germany	50/36 ^d	Exemption	0–25	Credit	25	19–53	Reduction (C), Elimination (S)
Greece	46	Credit	25–42	Credit	42	18–50	Elimination (C)
Ireland	10/40 ^e	Credit	0	Deduction	0	30–53	Reduction (S)
Italy	36	Credit	0–32.4	Credit ^f	32.4	10–50	Elimination (S)
Luxembourg	33.33	Exemption	0,5	Exemption	15	10–56	None
Netherlands	35 ^g	Exemption	0–15	Exemption	25	13–60	None
Portugal	36	Credit	10–15	Deduction	25	25–40	Reduction (S)
Spain	35 ^h	Credit ⁱ	10,15	Credit	20	25–56	Reduction (C)
United Kingdom	33 ^c	Credit	0	Credit	0	25–40	Reduction (S)
Japan	37.5 ^c	Credit	10,15	Credit	20	10–50	Reduction (S)
United States	34 ^c	Credit ^j	5–30	Credit	30	15–31	None

^aThe United States and Japan calculate the credit on a worldwide basis, that is, a tax is assessed on worldwide income and a credit is allowed based on the sum of all foreign taxes paid. All the other countries allowing a credit calculate the credit separately for each country in which foreign taxes are paid.

^bAn S indicates the relief is provided at the shareholder level, while a C indicates that it is provided at the corporate level.

^cThese countries apply lower rates to corporations with profits below a certain level or to small businesses.

^dThese countries have split rate systems. The first rate applies to retained earnings, while the second applies to distributed profits.

^eTax rate is 10 percent on manufacturing sector, 40 percent on other sectors.

^fAn exemption of 60 percent is provided for parent companies.

^gA higher rate of 40 percent applies to first Gld. 250,000 of profits.

^hThe Chamber of Commerce also applies a 1.5 percent surtax.

ⁱSpain exempts dividends from Switzerland.

^jCredit is calculated separately (on a worldwide basis) for several categories of income.

Source: OECD (1991d), Tables 3.1, 3.6, 3.7, 3.14, 3.15, and 3.19; and OECD (1991c), Table 12.

Current Provisions for Taxing Capital Income in the EC

Currently, taxation of corporate income varies enormously among the 12 EC Members; they employ different rates, different bases, different withholding for cross-border flows, and different degrees of relief from the double taxation that arises from taxation by more than one jurisdiction. They also use very different approaches to alleviate the double taxation from the combined impact of the corporate and personal tax (Table 4).

Statutory corporate tax rates range from 10 percent in Ireland, for manufacturing and certain services traded internationally, to 50 percent in Germany

on retained earnings. In addition, some EC countries have tax-free zones, and some levy reduced corporate rates on small and medium-sized firms. This range of rates is applied to bases that differ significantly across countries. Taxable income is related to profits reported in company accounts, but in some countries (Belgium, France, Germany, Greece, Italy, Luxembourg, and Spain) the link between accounts for tax and reporting purposes is strong, whereas in others (Denmark, Ireland, the Netherlands, and the United Kingdom) it is not. The treatment of depreciation, losses, pension plans, and capital gains also varies from country to country. Some countries also provide adjustments for inflation and offer tax incentives, such as investment tax credits.

To alleviate the double taxation of capital income that results from taxing both profits under the corporate income tax and dividends under the personal income tax, 10 of the 12 countries provide some relief at either the corporate level, the shareholder level, or both. Relief at the corporate level is achieved by taxing dividend distributions at a lower rate (Germany), or by allowing a full or partial deduction for dividends paid (Greece and Spain). Relief at the individual level is achieved by imputing the corporate tax and providing either a full (France, Germany, and Italy) or partial (Ireland and the United Kingdom) credit or by taxing dividends at lower personal rates (Belgium, Denmark, and Portugal).

The final area of divergence is cross-border flows of corporate income. Countries generally treat these flows differently than they treat income arising within their country, and in different ways. First, the EC countries generally impose a withholding tax on dividends, interest, and royalties that are paid abroad, where the rates of withholding depend on bilateral treaties between the two countries involved. Second, to provide relief from double taxation of intra-company income within the EC, six countries (Belgium, Denmark, France, Germany, Luxembourg, and the Netherlands) exempt dividends paid from a foreign subsidiary to a parent. The other six provide a credit for both the corporate tax and withholding on foreign-source dividends.⁹ One area of relative uniformity is that EC countries generally do not provide any relief at the personal income tax level for corporate taxes paid on foreign-source dividends.

Current arrangements violate the principles of equity and efficiency in many ways. First, the enormous variation in tax rates precludes the achievement of interjurisdictional equity. Second, the different withholding taxes on cross-border dividend flows, the different approaches to providing relief from double taxation on cross-border income flows, and the variation in the corporate tax rates have a significant adverse effect on both capital export neutrality and capital import neutrality. Simulations by the Ruding Committee suggest that differences in tax bases have a less significant effect. Third, in terms of individual equity, the less than full credit for corporate taxes paid abroad means that individuals with some foreign-source income pay a different tax than those whose incomes come solely from domestic sources. Moreover, in the case of those countries offering relief for corporate taxes paid on domestic dividends, the failure to extend this relief to foreign

dividends creates a discrepancy between the treatment of foreign-source and domestic-source income.

The Ruding Committee Proposals

In response to the enormous variation in the treatment of capital income among the EC countries, the Commission of the European Communities established the Committee of Independent Experts on Company Taxation under the chairmanship of Onno Ruding (CEC 1992). This Committee was charged with deriving recommendations that would improve the harmonization of taxation of capital income within the EC.

Although the Ruding Committee believed that a common system of taxation was a desirable long-term objective, its report stopped short of proposing immediate total harmonization. The suggested reforms are aimed at eliminating double taxation on cross-border income flows, harmonizing the treatment of foreign-source and domestic-source income, and minimizing the differences in effective corporate rates in order to reduce the incentive to move profits from high-tax to low-tax jurisdictions.

The main proposals with regard to double taxation would continue the movement toward elimination of withholding taxes levied by source countries

The Ruding Committee proposals maintain the current EC practice of separate accounting and offer amendments within that framework to alleviate inequities and inefficiencies.

on the dividends paid to foreign parent companies by subsidiaries, but retain a uniform withholding tax of 30 percent on all other dividend distributions of EC resident companies in order to combat tax evasion by shareholders. In addition, the Committee expressed

⁹ In the case of interest and royalties, the EC countries generally allow a credit; the credit does not always eliminate all the double taxation.

support for exemptions as the preferred means of eliminating double taxation of the parent country by the residence country. Whereas in theory the tax credit would work perfectly, in practice it does not. Tax credits are limited to taxes due in the parent's home country, and taxes on dividends can be deferred until dividends are actually repatriated. As a result, in practice, the credit method is often equivalent to an exemption.¹⁰

Two proposals were aimed at reducing discrimination between domestic-source and foreign-source income. The first extends existing provisions for avoiding double taxation of repatriated profits at the corporate level, through credits for foreign taxes already paid. The second attempts to avoid double taxation at the personal level, by requiring countries that provide tax relief for dividends received by domestic shareholders from domestic companies to extend this relief to dividends received from foreign companies.

The next set of proposals was aimed at moving toward a common, nondiscriminatory corporate income tax. The notion was that as obstacles to foreign investment are removed, differences in EC Member corporate tax bases and rates will assume greater importance in the allocation of resources. In order to reduce the scope for excessive tax competition, the Committee proposed establishing a minimum corporate rate of 30 percent and a maximum of 40 percent. The Committee acknowledged, but did not condone, the possibility that countries may want to continue the use of special tax incentives to encourage investment in particular areas.

In addition to narrowing the spread in rates, the Committee urged standardization of the tax base. The thrust of proposals was that the difference between commercial accounts and accounts used for tax purposes should be reduced as much as possible. Depreciation rules should be brought into line, so that depreciation is based on historic costs and minimum and maximum lives are established for different types of assets. Uniform treatment was also suggested for intangibles, leasing, stock valuation, pension contributions, losses, and capital gains.

In short, the Ruding Committee maintains the current practice of separate accounting and offers proposals within that framework to alleviate inequities and inefficiencies in the current system. The Committee assumes that the tax authorities, with proper policing, can allocate fairly the income of multinational corporations among the countries in which they operate.

The United States Approach to Taxing Multistate Corporations

In the early days of state corporate income taxation in the United States, separate accounting was the prevailing mechanism for allocating the profits of firms operating in several states. That is, accountants, lawyers, and tax authorities tried to identify the precise receipts and expenditures attributable to the corporation's activities in each jurisdiction. As early as the late 1800s, however, the states began to abandon separate accounting in favor of formula apportionment; the formula approach became widespread in the early 1900s (Tannenwald 1984). The shift was made because it had become increasingly difficult to disentangle the individual operations of multistate corporations.¹¹

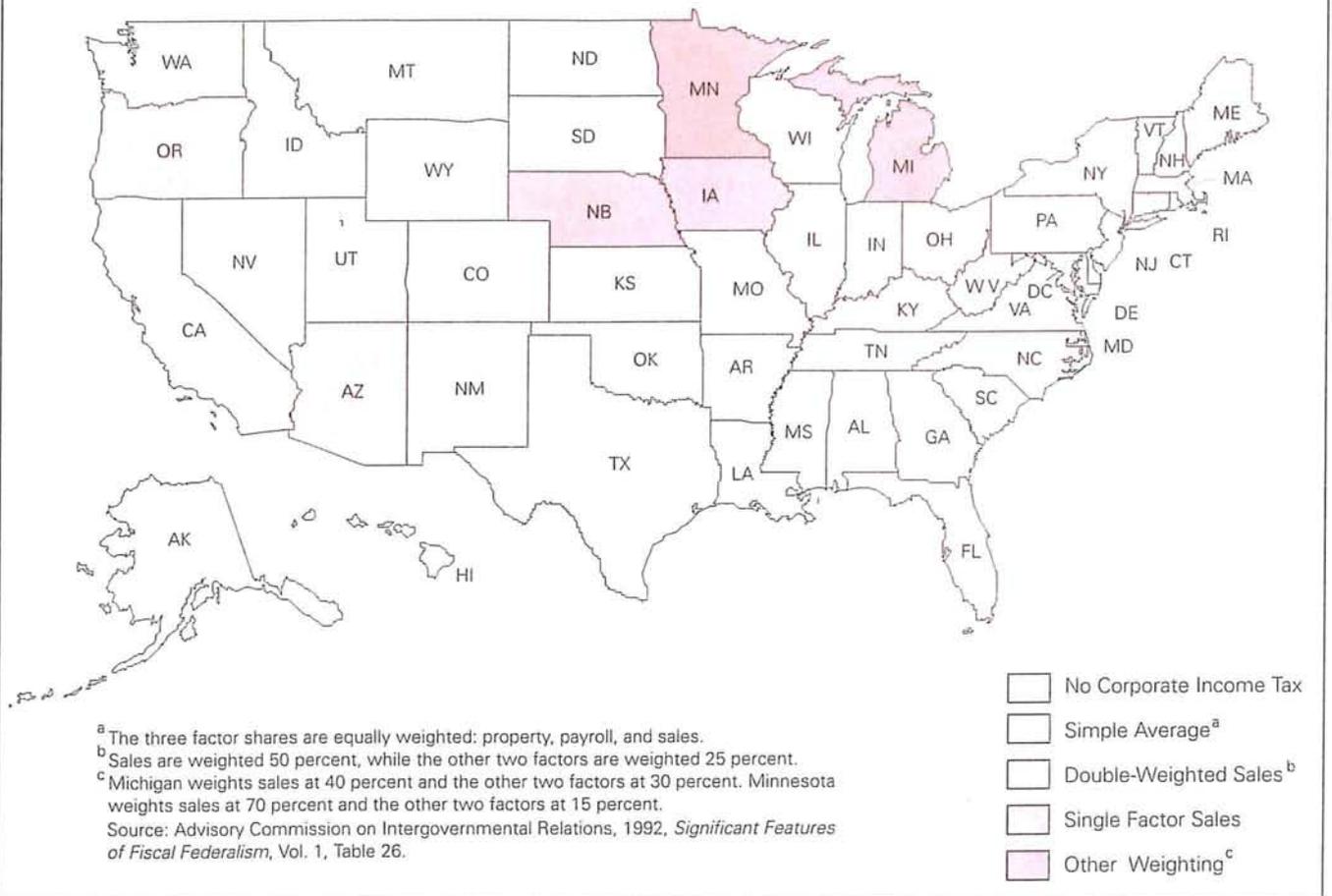
In some cases, economic interdependence between affiliated firms is so great that it is conceptually impossible to distinguish the incomes of the separate corporations. Vertical or horizontal integration occurs precisely because the profits of an integrated firm are greater, because of economies of scale and scope, than they would be if all of the units were independent. In other cases, corporations provide affiliates with products that have no other market and thus no criteria against which to judge transfer prices. This absence of third-party prices makes it difficult to enforce uniform standards for allocating costs and revenues among jurisdictions, and opens the door to manipulation of profits to minimize taxes. Thus,

¹⁰ An example will help to illustrate this assertion. Assume the domestic company earns \$100 and the domestic corporate tax rate is 40 percent. Assume also a foreign subsidiary earns \$10 and the foreign tax rate is 50 percent. In theory, a credit system would add the \$10 of foreign earnings to the domestic tax base, apply the 40 percent rate to \$110 to produce a domestic liability of \$44, and credit the \$5 tax paid abroad to yield a net liability of \$39. In practice, in an effort to prevent a drain on their domestic treasuries, countries limit their credit to the amount of the domestic tax. In this case, the credit would be \$4, producing a net liability of \$40. Alternatively, if the foreign earnings were not repatriated, under existing credit systems they would not be counted in the domestic company's earnings. The company's earnings would be \$100 and its tax liability \$40. This is the same liability produced by a system of exemptions. Under an exemption system, gross tax is calculated based on worldwide income and reduced by the share of foreign income in total income, yielding a net tax liability of \$40 $[(100 \times .4) * (100/110)]$.

¹¹ States could have adopted residence-based taxes instead of formula apportionment to solve this problem. Rumor has it that, in informal discussions, authorities told lawmakers and administrators that residence-based taxes might be construed as violations of the interstate commerce clause of the United States Constitution. Thus, to avoid potential lawsuits, they opted for formula apportionment.

Figure 1

Formula Apportionment under State Corporate Income Tax, 1991



apportionment emerged as a better mechanism for estimating the geographic allocation of income. It placed the tax authorities and the taxpayers on somewhat more equal footing.

Each state that levies a corporate income tax uses an apportionment formula, whereby it determines taxable income within its state on the basis of its state's shares of the corporation's total property, payroll, and sales.¹² Currently, 28 states use a simple average of these three factor shares, 13 states double-weight sales (that is, shares of property and payroll are each weighted 25 percent, while share of sales is weighted 50 percent), four states use some other variation of weighting, and five states have no corporate income tax (Figure 1).

Two problems can arise under formula appor-

tionment. First, because states apply different formulas to allocate income, corporations may be subject to double taxation. For instance, if one state bases taxable income solely on sales, while another uses the typical three-factor formula, potential exists for double taxation. In practice, this is not a serious issue

¹² Property is defined as all tangible property, whether rented or owned, used to produce business income, and it is included to proxy for the contribution of capital to business operations. The payroll factor reflects the contribution of human activities to the operations of a business, and is counted as all wages and salaries paid. The sales factor is included to account for the fact that in any jurisdiction where sales activity occurs, a company receives benefits from public expenditures in that jurisdiction. In general, sales by destination are used in order to provide the market state with an appropriate share of the base and to prevent the manufacturing state from claiming an excessive share of the base.

since corporations usually work out any problems with the tax authorities.

Second, corporations frequently argue that income belongs in one jurisdiction, while the tax administrators say it belongs in another. Usually the corporations claim that too much income has been assigned to a high-tax state. The courts have been sympathetic to the plight of the states, rather than that of the corporations, in attempting to allocate income geographically and have rarely interfered with this process (Miller 1984). The courts have taken the position that formulas are designed to approximate income arising from activities occurring in a state, rather than measure income precisely. In general, these formulas provide a fairer estimate than separate accounting and help curb tax avoidance.

Given the increasing importance of multinational firms operating within the EC, which is likely only to increase, it may be well worth considering formula apportionment of corporate income among EC Members.¹³ Formula apportionment provides a useful and fair approximation of geographic allocation of income. This approach helps to curb tax avoidance by making it difficult to shift income away from high-tax jurisdictions. Furthermore, if a Community-wide formula were adopted, then the potential for double taxation would be mitigated. Additionally, formula apportionment simplifies tax administration, because authorities no longer need to verify the transfer prices involved in separate accounting, a time-consuming and difficult process.¹⁴

IV. The Unitary Approach

The adoption of formula apportionment would improve the geographic allocation of corporate income in an increasingly integrated world. Formula apportionment alone, however, cannot eliminate completely the opportunities for tax avoidance through manipulation of transfer prices, as the United States has discovered. Even with apportionment, companies can still shift income among affiliated, but separately incorporated, businesses in order to avoid or reduce taxation.

Real-world manipulations of just this sort by the movie industry led the California Franchise Tax Board in the 1930s to develop the unitary approach and apply it in conjunction with formula apportionment (Keesling 1975). Authorities began to realize that just as geographic boundaries are not appropri-

ate indicators of the scope of business operations, neither are corporate boundaries. McLure (1989) offers a wonderful example of the type of shenanigans that could occur. Assume a company has many affiliates, the industry is the movie business, and the two states involved are California, a high-tax state, and Nevada, a state with no corporate income tax. The essence of the operation is that one corporation (California Consolidated) makes movies and distributes them nationwide and all of its income should be taxed in California. (See Figure 2 for a diagram of the corporate structure.)

The corporation has every incentive to try to reduce its net income in California through transfers to affiliated companies at artificial transfer prices. One possibility is for a company (California Films) to make the movies in California and then sell them to a Nevada affiliate (Nevada Profits) at just enough over cost to eliminate California taxable income. If the Nevada corporation distributed the products, it would realize all the return to both the making and the distribution of the movie. Since Nevada has no income tax, the company could escape corporate income taxation altogether.

Under an apportionment formula, Nevada Profits might be subject to some tax in California on its receipts from movie rentals to California cinemas. It could avoid even this tax, however, by setting up another Nevada company (Nevada Distribution) to distribute the movies it purchased from Nevada Profits at a cost high enough to eliminate the California profits entirely. Although all of the real economic activity occurred in California, none of this activity would be taxed by California. In fact, none of it would be taxed at all.

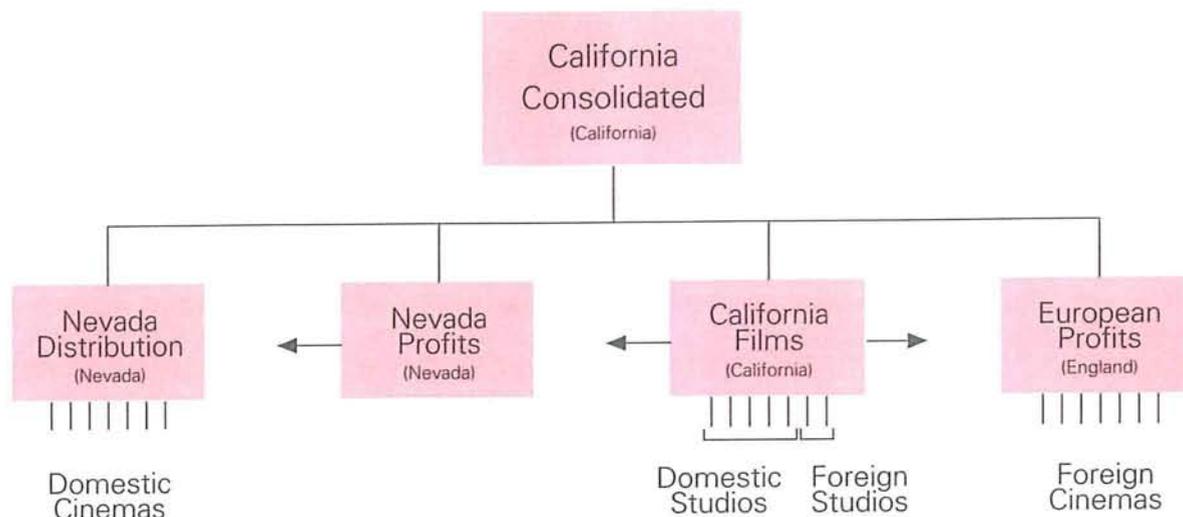
In an effort to eliminate abuses such as this, accountants, attorneys, and state administrators began considering the fundamental question of what constitutes a business, that is, how the corporate income tax base should be defined. Should the base be defined to include only the individually incorpo-

¹³ In the late 1970s, the OECD considered the use of formula apportionment but rejected it as incompatible with the OECD Model Double Taxation Convention adopted in 1977. They offered several arguments against formula apportionment: formulas would be arbitrary, profits could be misallocated, especially in cases where profits were assigned to a loss-making jurisdiction, and the necessary information would not be readily, if at all, available (Carlson and Galper 1984).

¹⁴ Some administrative complexity arises in the determination of the geographic location of certain factors, especially sales. Controversy still exists about whether the origin or destination should be considered the point of sale.

Figure 2

Example of Corporate Structure



rated firm, "single-entity accounting," or should it include affiliates whose businesses are economically related, "unitary combination"? If unitary combination is adopted, should the combination be limited to water's edge, domestic, or worldwide?

In the United States, water's edge combination limits the income base to the domestic operations of U.S.-based affiliates. Domestic combination is a broader concept that includes in the tax base all income of domestic-based affiliates, no matter where earned. Thus the difference between water's edge and domestic is that the foreign income of U.S.-based affiliates is excluded under water's edge accounting, but included under domestic combination. Worldwide combination is the most expansive and includes in total income all income of all subsidiaries.

Returning to the example of the movie industry will help clarify the distinctions between the various methods of unitary combination. Assume two additions to the corporate picture: California Films has both domestic movie studios and foreign movie studios, and a foreign subsidiary, European Profits, buys films from California Films to distribute in Europe (Figure 2).

If California applied single entity accounting, California Films would file a return summarizing

receipts and expenditures for its own operations. California Films in the example above would show no profit and would pay no tax. Thus, in the absence of unitary combination, even with formula apportionment, companies have considerable room for tax avoidance by shifting income across state lines to separately incorporated affiliates.

If the state introduced unitary taxation and applied water's edge combination, it would include in the income base all income from the U.S. operations of California Films (its foreign film studios would be excluded), the income of Nevada Profits, and the income of Nevada Distribution. If the authorities adopted domestic combination, they would include both the domestic and foreign earnings of the three domestic subsidiaries, California Films, Nevada Profits, and Nevada Distribution. With worldwide combination, the income base would include the earnings of the foreign subsidiary European Films, as well as those of the three domestic subsidiaries, California Films, Nevada Profits, and Nevada Distribution.

Real-life situations are often vastly more complex, especially when companies operate more than one unitary business. For example, a corporation might have several subsidiaries deemed a unitary business in consumer products, and some other

subsidiaries deemed a unitary business in mining. Nevertheless, the unitary approach provides a rough solution to the problem of determining taxable income when affiliated, but separately incorporated, companies conduct interdependent businesses in a number of jurisdictions.

Until the mid 1930s, all states applied single entity accounting. As more and more corporations began organizing themselves as centrally controlled groups of affiliates, corporations that were similar in all respects except organizational structure began to be treated very differently under state tax laws.

The unitary approach provides a rough solution to the problem of determining taxable income when affiliated, but separately incorporated, companies conduct interdependent businesses in a number of jurisdictions.

California was the first state to expand the definition of a company to encompass related businesses regardless of corporate structure. In a landmark case,¹⁵ the courts upheld the state's application of unitary combination and established three criteria to define a unitary business. The court determined that businesses are unitary and should be considered as a single taxpayer if they meet three conditions: unity of ownership, unity of operation, and unity of use.¹⁶ In another California case,¹⁷ the court again upheld the application of unitary combination and provided an alternative test, the contribution or dependency test: if the business occurring within the state depends upon or contributes to operations occurring outside of the state, these operations are unitary and should be considered as a single taxing unit.

The majority of states, 28, still practice single-entity accounting while the other 17 states with a corporate tax apply some form of unitary combination. Currently 11 states apply domestic combination, three apply water's edge combination, and three states apply worldwide combination (Figure 3).

Several difficulties have arisen in conjunction with the application of unitary taxation. All forms of

unitary taxation are subject to criticism on the grounds that they may violate interjurisdictional equity by allocating income to jurisdictions where it does not belong. Under domestic and water's edge combination, this interjurisdictional equity would be violated primarily between states, while under worldwide combination the violation occurs principally between nations.

Also, in the United States, the variation among states in the type of combination applied increases the potential for double taxation. Courts have been reluctant to strike down water's edge or domestic combination on these grounds, however, primarily because unitary combination is the only way to halt tax avoidance through manipulation of transfer pricing (Miller 1984; Tannenwald 1984). In any event, these problems could be eliminated if all states applied the same level of unitary combination.

The desirability of worldwide combination is considerably less clear. Worldwide unitary combination upsets carefully orchestrated bilateral treaties. As discussed earlier, most countries treat multinationals on a water's edge basis, exempting the income of foreign subsidiaries or providing credits to eliminate international double taxation. Foreign governments, however, do not provide credits for state taxes paid,

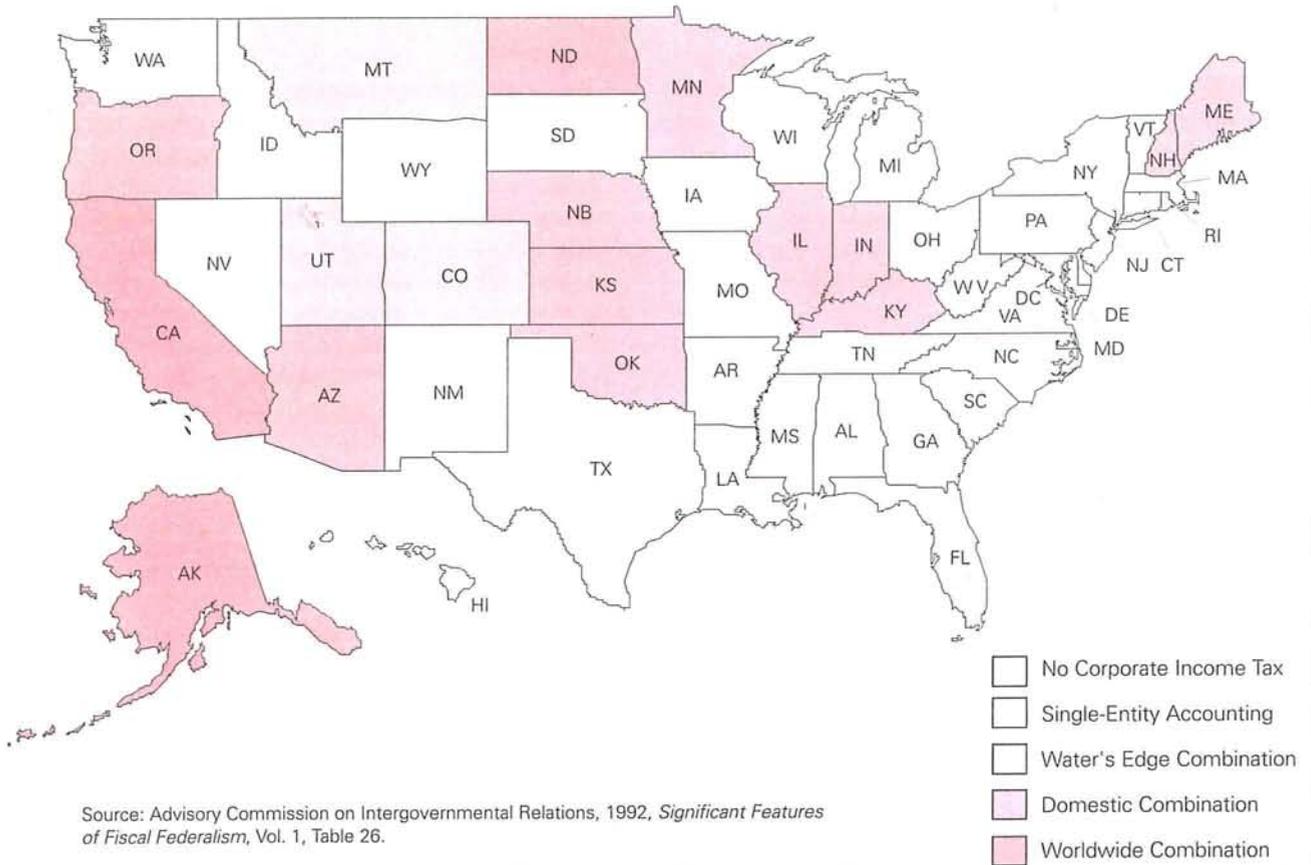
¹⁵ In *Butler Brothers v. McColgan* (1941), the company filed suit claiming that they were taxed unfairly in California, where, under separate accounting, their department store operated at a loss. California claimed, however, that an interdependent relationship existed between the California store and the Chicago headquarters, since the goods for all stores were purchased centrally. As a result, California argued that the operations of the entire business should be considered together, and California should be credited for a share of profits proportionate to sales occurring in the state. This case is discussed in Miller (1984) and Keesling (1975).

¹⁶ Unity of ownership occurs when activities are conducted by a single corporation or through controlled subsidiaries, generally indicated by at least 50 percent ownership. Unity of operation exists if some or all of the following functions are centralized or shared: purchasing, advertising, accounting, legal counsel, intercompany financing, employee benefit plans, or joint expansion efforts. Unity of use is similar to unity of operation but relates to management and operational systems, and is deemed to occur if some or all of the following conditions are present: intercompany transfer of products, shared officers or directors, transfer of executive personnel, submission of monthly financial statements, uniform management theory, training, interchange of knowledge and expertise, and public presentation or image.

¹⁷ In *Edison California Stores v. McColgan* (1947) the company claimed that combination should not be applied to separately incorporated entities. The mere existence of a legal separation should prohibit the companies from being considered a single entity. The court upheld the state's view that just as geographic boundaries are not indicative of separate operations, neither are corporate boundaries (Miller 1984).

Figure 3

Unitary Combination under State Corporate Income Tax, 1991



so the income of foreign subsidiaries is taxed twice in states that apply worldwide combination. Similarly, states do not allow deductions for foreign taxes paid and so foreign-source income of U.S. affiliates is also double-taxed. Furthermore, several major trading partners of the United States have threatened retaliatory action if their multinationals continue to be subjected to worldwide unitary combination, and have sought protection from this practice in treaty negotiations and lawsuits (McLure 1989).

It is also argued that unitary combination imposes undue administrative burdens for two reasons: the wide variations in state tax laws (which also differ from federal regulations) pose complications, and the sheer amount of documentation required to identify unitary businesses is burdensome. These concerns could be alleviated if companies compiled a standard work sheet with all the pertinent information for all

related subsidiaries deemed unitary, as suggested by the U.S. Treasury's Worldwide Unitary Taxation Working Group (1984). Worldwide combination further complicates administration because the accounts of foreign affiliates are often incompatible with accounting requirements of state authorities, and exchange rate conversion presents difficulties. These problems are not so easily solved.

A risk also exists that unitary taxation will be applied to industries where separate accounting is by far the more appropriate approach. (In the United States, a state's choice of approach has frequently been driven by desire for more revenues rather than the appropriate allocation of profit.) A case in point is the oil industry. Here separate accounting probably provides a more accurate indication of the location of industry profits; profits reflect the ability to extract oil at costs below market prices, and they are most

appropriately assigned to the site of extraction—a goal easily achieved because market prices for crude oil are readily available for transfer price calculations.

The difficulty is that vertically integrated oil companies are often cited as prime examples where separate accounting cannot capture the benefits of integration, economies of scale, and centralized management. Hence, the same motives that have led individual states within the United States to try to use worldwide combination to tax the foreign-source income of oil companies could lead the EC to tax the oil industry on an apportionment basis. Thus, separate accounting should be retained for those industries where market prices are available to establish legiti-

As the EC becomes more closely integrated, judicious use of water's edge unitary combination may produce a better outcome than unitary taxation.

mate transfer prices and where interdependence between firms is relatively unimportant. As the EC becomes more closely integrated, however, it may become increasingly less appropriate to rely exclusively on separate accounting to allocate capital income among countries. Eventually, judicious use of unitary combination may produce a better outcome.

If unitary combination is to be applied in the EC, it appears that the method for all countries to adopt in determining the tax base would be water's edge unitary combination, with the water's edge being the boundary of the EC. This would avoid the international complications associated with worldwide combination, yet avoid the pitfalls of separate accounting, which will become increasingly large as the EC becomes more economically integrated. Taking this approach would also avoid the United States' problem of different jurisdictions applying different levels of combination. Administrative burdens will be lessened if all countries adopt a standard reporting work sheet and record transactions in ECUs once full monetary union is implemented. Coordination between countries regarding rates, depreciation, deductions, and other statutory regulations defining taxable income would also ease administrative burdens

and improve equity. This coordination is not absolutely necessary, however, as evidenced by practices among U.S. states.

V. Conclusion

Several points emerge from this overview of the taxation of capital income in a world of international financial markets and rapid expansion of multinational corporations. The first is that developed countries probably do not want, in the absence of significant wealth transfer taxes, to back away from annual taxation of the returns to capital.

Second, despite the strong intellectual arguments for full integration of the corporate and personal income taxes, capital income will probably continue to be taxed separately at the corporate and again at the personal level. This means that even with greater coordination the EC countries will continue to use both source-based and residence-based taxes, creating a host of inequities and inefficiencies that will require offsetting exemptions, credits, and deductions.

Third, progress is being made toward cooperation and coordination. If the proposals of the Ruding Committee were adopted, many of the distortions could be eliminated. However, as the EC becomes integrated, it may become increasingly difficult to disentangle the operations of multinational corporations and to enforce arm's length pricing. Eventually, therefore, the EC may want to consider replacing the international standard of separate accounting with a system of formula apportionment similar to that currently used by the individual states in the United States.

Finally, the EC might want to consider combining formula apportionment with unitary combination so that companies cannot avoid taxes by shifting income among affiliated, but separately incorporated, businesses. The hope would be that the EC could adopt all the beneficial aspects of the U.S. system, without repeating all its mistakes.

The foregoing discussion, however, raises as many questions as it answers; two bear special mention. The first is the issue of multilateral as opposed to regional harmonization. In the international trade area, a current debate is whether regional free trade areas are "good" or "bad." Some claim they are positive developments because they create trade and may be stepping stones toward multilateral free trade. Others contend that they distort trade by

substituting for multilateral trade agreements. This paper has focused on the U.S. federal experience and on improved harmonization within the EC; in fact, it explicitly endorses formula apportionment and water's edge approach to unitary combination only within the EC. Harmonization within the United States and within the EC still leaves plenty of room for distorting investment decisions between harmonized blocs. This raises the question of whether nations should be working towards global rather than regional harmonization.

The second issue is determining which are the most pressing concerns of national governments in the area of tax policy. With regard to equity, one major possibility is double taxation, either within or among jurisdictions. With regard to efficiency, the three major candidates seem to be distorting the location of physical investment, distorting the flow of savings, and losing tax revenues. The nature of the concern and the likelihood that tax provisions will cause major distortions should dictate where tax authorities concentrate their efforts.

With regard to equity, countries may place a high priority on ensuring horizontal equity among taxpayers with equal incomes but different income sources. In this event, the corporate and personal tax systems should be fully integrated, so that corporate income is not taxed at both the corporate and the personal levels. This goal can be achieved through several

The question remains of whether nations should be working towards global rather than regional harmonization.

methods: split rates or deductions at the corporate level, or credits or imputation at the personal level.

Countries may also be concerned about alleviating double taxation across jurisdictions so that taxpayers with foreign-source income are treated the same as those with only domestic income. Much double taxation has already been eliminated at the corporate level, although full global equity would require the same tax rates across countries and a pure credit system with no limitations or deferrals. In theory, withholding on corporate dividends flowing to other countries should be removed, although withholding reduces the potential for tax evasion. At the

personal level, allowances should be made for foreign, as well as domestic, corporate taxes paid.

With regard to efficiency, the discussion in the paper implies that if France has a higher corporate tax rate than Belgium, then multinationals will undertake all their expansion in Belgium rather than France, if not actually move existing firms from France to Belgium. In fact, most of the research suggests that the tax issue is not very high on corporate managers' agendas. Nonetheless, to achieve capital export neutrality and ensure an efficient pattern of worldwide investment, countries should focus on the corporate tax rate relative to that of other countries.

Experts generally acknowledge that differences in taxes will not alter the physical location of investment (Slemrod 1990). Taxes can, however, affect the financing of investment, since debt and equity are treated differently under existing tax systems (Chown 1992). If companies alter their financing arrangements, this can significantly affect the distribution of tax revenues among countries. If this is a primary concern, then countries should focus on aligning the tax treatment of debt and equity.

Another possibility is that countries are concerned about large outflows of national savings in response to significant differentials in the after-tax rate of return and want to ensure that the most efficient producers, rather than those with the greatest tax advantages, undertake projects. Some have suggested that the high correlation between savings rates and investment rates indicates that capital does not flow freely across national borders (Feldstein and Horioka 1980). The relatively small net flows, however, are the result of very large gross flows of savings in all directions. Moreover, countries may find it difficult to tolerate large inflows or outflows for prolonged periods of time and undertake changes in economic policies to bring domestic saving and investment into balance. In other words, distortions in savings flows may well be significant. To the extent that achieving capital import neutrality is an important concern, countries ought to concentrate on bringing their combined corporate and personal income taxes in line with those of other countries.

Another possibility is that governments do not care that much about distortions in savings or investment flows, but just want to ensure that they get their share of tax revenues. In that case, the area on which to concentrate would appear to be administration, and consideration of new approaches to allocating tax bases, such as formula apportionment and unitary combination, should be given high priority.

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