THE X TAX IN THE WORLD ECONOMY

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Abstract

This paper considers the treatment of multinational business in the system known as an X Tax. The focus is on the choice between origin and destination treatments of transborder transactions. The destination-principle approach sidesteps the transferpricing problem. It remains in the origin-principle approach, which, however, presents fewer challenges of monitoring the imports, obviates the "tourism problem" whereby people can reduce their taxes by consuming in a low-tax jurisdiction and avoids transition effects associated with introduction of the tax and subsequent tax rate changes. The paper suggests special rules for transborder transactions between related parties to deal with the transfer-pricing problem.

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Prefatory Remark

This paper presents a synthesis and extension of two papers: "Blueprint for International Tax Reform" (Bradford 2001), which was prepared for the Brooklyn Law School International Tax Policy Symposium, "International Tax Policy in the New Millennium," November 9-10, 2000, and "Addressing the Transfer-Pricing Problem in an Origin-Basis X Tax," (Bradford 2003). In order to present the full story, large portions of the text have been drawn directly from its predecessors. I hope that readers with an interest in the details will not be diverted by the repetition from the new ideas presented, particularly the material on how to deal with transfer-pricing problem that is contained in the penultimate section, under the heading "A Remedy for the Transfer-Pricing Problem in an Origin-Basis X Tax."

Introduction

"X tax" is the name I have given to a system designed to replace the income tax on corporations and individuals in the United States (Bradford 1986, 1996a). Like the present system, it is based on a combination of company and individual taxation. It

differs from the present system in two related respects that it shares with several other tax-restructuring plans: First, treatment of the tax base of companies and treatment of the earnings of workers are tightly coordinated. In the language of Hall and Rabushka (1995), the object is to tax all income but only once, either at the level of the company or the level of the worker. Second, consumption, or consumed income, replaces the accrual income ideal that, in principle, underlies so much of the present tax design. These features make possible substantial simplification of the tax system and greater neutrality of taxation with respect to decisions about how much, where and in what form to invest, while retaining substantial scope for progressivity.

This book represents an extension of ideas I have developed in a series of previous publications. Most of them are cited as I go along and many have been collected in Bradford 2001. (With apologies, I do not attempt to credit comprehensively the writings of others from which I have learned about all of this or to which I may implicitly respond.) Although there is new material about the X tax as such, my main object here is to consider the options for incorporating into a U.S. X tax transactions that cross national boundaries. I also consider the neutrality and equity properties of the worldwide use of national X taxes, such as might result from a broader program to transform the international system of company taxes and their links.

In the interest of focusing on basic principles, I touch only lightly, if at all, on various practical and political dimensions of the international tax dilemma. Perhaps the most important matter to which I give only the briefest attention is the problem of coordination with the tax systems of other countries that would arise if the regime of taxation presented here were to be adopted unilaterally by the United States. The

transition to such a regime would raise many questions as to its impact on other countries that did not adopt a similar approach and, more generally, with respect to obligations under treaties covering international trade and taxation. Although I suggest below that some of these problems may be less serious than commonly assumed, no doubt I am missing many other issues.

The X Tax in an International Setting

Basic X Tax Structure

The X tax is a variant of the Hall-Rabushka (1995) Flat Tax, an example of what I have called a "two-tiered consumption tax" (Bradford 1986). It consists of two components: a business tax and a compensation tax. Under the business tax, all businesses (regardless of legal form) are liable for tax at a single rate. In calculating the business tax, payments to workers are deducted. Individual workers are taxed under the compensation tax, the base of which consists of payments for labor services. (If an individual runs a business, it is taxed as such.) Unlike the business tax, the compensation tax is levied at graduated rates, with a zero bracket amount and some set of higher rates on larger amounts received, up to a top rate that is the same as the business tax rate. In addition, there could be an earned income tax credit, as under the current system.

Importantly for ease of administration, financial transactions are excluded from both business and compensation tax bases. In the ordinary case, transactions such as borrowing and lending, issue and repurchase of stock, payment and receipt of dividends, and the like, do not enter the calculation of the taxable base. In the helpful terminology of the Meade Committee (Institute for Fiscal Studies 1978), this is an R-Base ("real" transactions, as opposed to "financial" transactions) tax. (Financial institutions present

special problems, which I neglect in this paper. For some details and some possible solutions to those problems, see Bradford 1996b.)

The rate of business tax and the rates and brackets of the compensation tax would be set to meet revenue and distributional objectives. I would guess with a fairly broad conception of the base as far as details of itemized deductions are concerned, we could approximate the progressivity of the U.S. income tax system during recent years with a business tax rate below 30 percent. This would also be the top rate of compensation tax.

The original conception of the business component of the X tax called for inclusion in the tax base of the proceeds from sales of all goods and services and the immediate deduction of purchases of goods and services from other businesses, without any distinction between purchases for current use and purchases for investment purposes. This is the treatment proposed in the Hall and Rabushka plan (1995). To avoid unwanted incentive effects on investment in the event of variation in the rate of business tax over time, it is likely that a system of capital accounting for the real activity of businesses will be needed (Bradford 1998). This would imply rules for depreciation and inventory more or less long the lines of the existing system (except that financial transactions, such as borrowing and lending would be excluded). Substituting capitalization of business investment, with delayed cost recovery, for the immediate expensing of investment, taken by itself, would change the economic character of the system. To restore that character, a deduction would be provided for capital tied up in the business, calculated by multiplying the value of a company's business assets on the tax books (the assets' "basis" in tax accounting jargon) by an appropriate rate of interest.

I explain this issue in greater detail below in connection with dealing with a changing rate of tax (as would arise in a transition to an X tax). So long as the rate of tax is constant, the combination of capital accounting for the business and the deduction for capital tied up results theoretically in the equivalent of the expensing treatment, and it will aid in understanding the economics of the situation to assume the expensing regime except when we are focusing on tax rate changes. Then it is immediate that, if we neglect the deduction of payments to workers, the business tax component of this system constitutes, in the jargon of the tax trade, a value-added tax of the consumption type, implemented by the subtraction method. This is a great help to thinking about the links among tax systems in a world of national X taxes. For, provided the rate of tax is the same and neglecting administrative details, a value-added tax of the subtraction type is essentially equivalent to a value-added tax of the invoice-and-credit type, a tax institution with which there is a great deal of experience around the world

Under the invoice-and-credit method, the selling firm pays a tax on all sales, noting the amount of tax on the sales invoice. A taxable firm making a purchase is allowed a credit against tax liability of the amount of tax shown on the invoice. The effect is that a sale from one business to another gives rise to simultaneous payment of tax by the seller and equal credit against tax for the buyer. There is no net tax paid to the government until the point of sale to a buyer other than a taxable firm, generally the public. The invoice-and-credit method value-added tax thus gives rise to exactly the same flow of revenues to the government as does a subtraction-method value-added tax or a retail sales tax, with the proviso that the same goods and services are subject to tax at the same rate.

The fact that an X tax allows businesses to a deduct payments to workers (taxed progressively via a graduated rate schedule at the individual level) does not fundamentally change the story from an economic perspective, even though it may do so from a legal perspective. The system can be understood as a subtraction-method value-added tax, combined with a system of transfers based on earnings for purposes of adjusting the vertical distribution of net burdens (Bradford 1987).

Extension to an International Setting

The building blocks of an X tax are business firms. We can think of it as a tax that consolidates transactions among some set of companies, with the base consisting of the net flows of goods and services from that set of companies. In principle, there is considerable room for choice about the exact definition that places a company within or outside the taxable circle. For present purposes, however, I imagine rules rather like the ones now used to determine the liability for value-added taxes (Lokken 2001 provides a discussion). Given such conventions, no distinction is made between domestic and foreign owned companies. All companies operating in the United States, for example, are treated alike.

Two General Approaches: Destination-Basis and Origin-Basis Taxes

In the international setting there are two main options for the treatment of exports and imports, which are transactions with customers and suppliers in another tax jurisdiction – "abroad" (McLure 1987; Tait 1988). The two options are destination-basis and origin-basis taxes.

Destination-basis taxes are levied on goods and services in the country where they are bought (their "destination"). Imports are subject to tax and exports are exempt from

tax. The tax base is an aggregate of the goods and services consumed in the taxing country. Most value-added tax systems are destination-basis. (Tourists who buy a product in a destination-basis system are familiar with the process of obtaining a rebate of the value-added tax when they take it out of the country where they bought it.)

Origin-basis taxes are levied on goods and services in the country where they are produced. No tax is charged on imports and exports, a company's sales to foreign customers, are taxed.

To implement a destination-basis X tax, companies would simply exclude from the calculation of their tax base the proceeds from sales to foreign customers. Correspondingly, purchases from foreign suppliers, unlike purchases from domestic companies, would not be deductible.

Just the opposite rule would apply in implementing an origin-basis X tax. That is, companies would treat sales to foreign customers like sales to any other customers and include them in the tax base. Purchases from foreign suppliers would be deducted from the tax base.

Understandably, these two approaches seem very different to the lay person. Economists have long recognized the strong theoretical argument that the two systems will produce the exact same outcomes in terms of when, what and where goods and services are produced and consumed (Feldstein and Krugman 1990). In view of the economic equivalence between these two forms of tax, we must be careful in basing intuitions on the destination and origin labels. Distinctions between the two approaches encountered in policy debates, especially regarding effects on exports, are often wrong.

Economic Equivalence between the Approaches: The Basics

A numerical illustration will remind readers of the sense in which the two approaches are economically equivalent. Suppose the world consists of two countries, the United States and France, between which trade is currently and has in the past been exactly balanced (so the value of goods and services exported from the one exactly equals the value of goods and services imported in return, period by period). Both countries produce a basic consumption good, say corn, which sells for $1 per bushel. In addition, computers are produced in one of the countries, say the United States, selling for $1000 each.

In the illustrative equilibrium, 1 million of the computers are sold by U.S. companies to buyers in France for a total value of $1 billion. Companies in France export to U.S. companies 1 billion bushels of corn at $1 each. The United States has an origin-basis X tax (so exports are taxed; imports are deductible, so not taxed) with a business tax rate of 25 percent. For purposes of this and other such exercises in this paper, we can ignore the compensation tax or assume it is levied on all earnings at the business tax rate and withheld by the companies. So the situation is transactionally equivalent to a 25 percent value-added tax of the consumption type.

Suppose in the illustrative situation computers are produced without any inputs of labor or other materials. The tax paid by the computer sellers on their export sales is $250 million and the owners of the companies get to keep $750 million. The outlay of $1 billion for the import of corn by relevant companies gives rise to a deduction of $1 billion and the resale to U.S. customers to an inclusion of $1 billion for no net tax. In France, let us suppose, there is no company tax; the $1 billion paid for the corn is paid in turn to

owners of farms, to French workers and perhaps to the French government (in taxes on owners and workers), who together spend a total of $1 billion for the imported computers.

In the alternative case, suppose that the United States employs a destination-basis tax. That is to say, firms are allowed to exclude the export sales from their X-tax calculations but may not deduct the amount paid to foreign suppliers for imports. The set of prices in the United States and France that we stipulated to prevail in equilibrium under the origin-basis tax cannot characterize equilibrium under the destination-basis tax. Under the former set of prices, exporting computers from the United States to France would be highly profitable (which is why people naturally think that a shift to such a tax would stimulate exports), while the U.S. importer of corn would suffer losses. We can, however, readily specify other sets of prices that will give rise to exactly the same activities as we observed in the origin-basis tax world.

For example, if the price level (not just the price of corn) in France were lower by 25 percent, the former equilibrium conditions would be realized. In that case, the price of a bushel of corn in France would be $0.75, instead of $1.00. A computer would sell for $750, instead of $1000. Unspecified in the example, the nominal wage in France would have to be lower, too, by 25 percent, so the real wage rate would be the same in the two situations. We know that, with these prices, the French farmers will happily supply the same quantity of corn to the U.S. companies as in the former case, and that U.S. demand for French (plus U.S.) corn would be the same, because $0.25 per bushel in tax is added to the price paid for imported corn in the destination-basis system. The U.S. computer makers are happy to accept the $750 offered by the French buyers, even though

computers still sell for $1000 in the United States, since the sale is not included in the X tax base and hence yields the same amount as a domestic sale after the $250 tax. The U.S. Treasury still collects $2.5 billion in tax; owners of U.S. computer companies still get $7.5 billion in earnings that they can still spend on computers and corn at the original terms.

Note that, in view of the equivalence between the outcomes in these two situations, we would want to describe them in international trade statistics as being the same. This would be accomplished by measuring both exports and imports at their value in the U.S. market, rather than at what the U.S. exporter or importer receives or pays. Under the origin-basis tax system, these two are the same but in the destination-basis system, they differ by the applicable U.S. tax.

In this example, I used a lower price level in France to generate the economic equivalence between the two tax regimes. I could as readily have used a higher price level in the United States. Alternatively, some readers may find it easier to think of a variation in the exchange rate between different currencies used in the two countries, with no difference in the general price levels between the two tax regimes. So, suppose under the initial, origin-basis situation, one dollar ($1) buys ten French francs (Ffr 10). Computers sell for Ffr 10,000 each and corn for Ffr 10 a bushel. If, in the alternative, the United States has a destination-basis tax, all of the real opportunities in the system are the same if the exchange rate is Ffr 13.33 to the dollar (13.33 less 25 percent of 13.33 equals 10). The exporter of a computer from the United States receives Ffr 10,000, which he exchanges for $750. Since this sale is not subject to tax, the exporter keeps the whole amount; the after-tax result is the same as for a $1000 sale to a domestic customer. The

U.S. importer of a bushel of corn pays $.75 at the 13.33 to 1 exchange rate. When the bushel is sold for $1 there is no deduction, so $.25 in tax is paid; the net proceeds just cover the cost of the import.

The point to take away from this exercise is the basic economic equivalence of the two approaches once in place and with the same tax rate when prices are determined at arm's length. The choice between these two rules for treatment of trans-border sales does, however, have important implications, mostly relating to transitional incidence and incentives but also relating to administrability, especially in situations with transactions across borders among related companies.

Supernormal Returns, Measurement Issues and Transfer-Pricing Problems

A key feature of the system contributing to its properties is its grounding in sales and purchases of goods and services only (with, in general, exclusion of financial transactions from the tax base). In the standard subtraction-method value-added tax, all that is required to calculate a firm's tax base is cash-flow information about real transactions – sales less purchases from other businesses. (If it were adopted, the combination that I have mentioned of capitalization of outlays on capital account – including investment in intangible property – and a deduction for the cost of capital tied up in the business would add a complicating element but not fundamentally change the administrative properties of the system.)

Maintaining the consistency of ignoring financial transactions is important, since the major simplifications achieved by the X tax are due to the exclusion of financial transactions. This exclusion eliminates a host of intractable problems in the world of finance (Bradford 1995). For ordinary business tax accounting, it means no inclusion of

interest or dividends received (and thus no rules to distinguish between them), no deduction for interest paid, and myriad related changes in accounting, eliminating an equally large host of tax complexities. To mention one prominent problem that would disappear: No special rules are required for capital gains. Business assets are taxed on a cash-flow basis (perhaps as modified per my remarks above); transactions in financial assets and liabilities, and associated financial flows, such as payments of dividends and interest, are out of the base.

These administrative features extend to the international version of the system. New administrative problems are introduced by in the case of the destination-basis system, however. The exclusion of exports requires monitoring methods to assure that the payments in question really come from foreign purchasers (rather than domestic consumers). The disallowance of deduction of imports – purchases from abroad – requires monitoring incoming travelers at the borders (since it has the effect of subjecting imports to tax), as is done by customs inspectors at present. Different from import tariffs, however, is the treatment of imports by businesses; since a denial of a deduction is involved, there is no need to monitor business imports. This might be implemented by requiring businesses to justify deductions by providing the tax identification numbers of suppliers; a foreign supplier would not have a U.S. tax identification number (Lokken 2001).

The disadvantage of monitoring the border is offset by the advantage of a destination-basis tax, its elimination of transfer-pricing as an international tax problem. The need to value purchases and sales among related domestic and foreign companies is a perennial challenge under the existing income tax. The problem is greatly magnified by

the ever-growing importance of intangible property in the generation of profit and the rapid growth of intra-firm trade (Gordon and Hines 2002). Since the proceeds of a sale to a foreign customer are not in the destination-basis X tax base, the price that related parties may use to account for the export transaction has no impact on the amount of tax paid. The same holds for an import from a related foreign party. The price set by the parties does not matter for tax purposes because there is no deduction.

Under the origin-basis system, by contrast, there is no tax-based reason to police the borders for imports. This property becomes especially important when we take into account the possibility that consumers may cross borders to do their consuming. I call this the “tourism problem," with the caveat that the term may seem to imply it is confined to cross-border shopping on temporary excursions. It applies as well, for example, to the situation of a U.S. individual who retires to a low-tax jurisdiction, thereby avoiding the tax that would fall on a person who remained in the United States. Purchases from a foreign supplier over the internet that might bypass a destination-basis tax represent another instance of the tourism problem. Against the advantage of the origin-basis system that it avoids the need to monitor the borders must, however, be balanced its vulnerability to the same sort of transfer-pricing problem that arises in the existing corporation income tax.

To illustrate some of these points in our abstract international economy, we need to change the stipulated facts. We can, for example, add capital transactions – a U.S. investor might lend $1 million to a French borrower. Consider the simplest case, which avoids the need to deal with time systematically. Suppose the loan and repayment occur between 8:00 am and noon of the same day and as a result there is no interest, because

the time is so short. Such financial transactions are ignored in the X tax so this round trip transaction would have no tax consequences, direct or indirect.

A slightly more interesting transaction could, however, have indirect tax consequences: The U.S. lender agrees to accept in repayment the outcome of a $1 million investment in the French stock market, which is open from 8:00 am until noon. At noon, the financial arrangement is wound up, with the U.S. investor having made a profit or a loss, relative to the $1 million put up at 8:00 am. This result will ultimately result in an increase (if the investment is a winner) in imports to the United States from France, or a decrease (if the investment is a loser). In a destination-basis tax, the result is a change in U.S. tax revenues, since imports are not deducted but sales to the public (which are affected) are subject to tax. In that world, the U.S. fisc shares in the fortunes of U.S. financial investments abroad because they affect consumption in the United States. In the origin-basis system, these consumption changes, which are reflected in changes on the gross income side of the importing companies' accounts, are offset by changes in deductions for imports, so there are no indirect tax consequences.

The expected return on a financial investment will generally embody a risk premium (which, as illustrated by insurance, could be negative). In the example, it may be that the expected payoff to the financial investment in France (net of the invested amount) is positive and we might say it incorporates the expectation of a "supernormal return." This expected supernormal return is subject to U.S. tax indirectly, if the system is on a destination basis. It is ignored if the system is on an origin basis. There is, presumably, no policy significance to the tax difference in this case. The U.S. tax stake in the foreign investment simply compensates for the portion of the risk taken on by the

U.S. fisc. (For a discussion of the general issues involved see, for example, Kaplow 1994, Bradford 1995 or Zodrow 1995).

A different form of "supernormal return" is at issue in the classic transfer-pricing situation. To adapt our illustration for the purpose, suppose the patent for producing the computers in our example is owned by a U.S. company and all that is required to produce one is the patent right. Since a computer sells for $1000, that right will also sell (at arm's length) for $1000. Now, instead of having the U.S. company export computers, suppose it exports to a French company the rights to produce 1 million computers for a licensing fee of $1000 per unit. In this fact situation, the tax consequences and exchange rate or price level outcomes under the alternative regimes are the same as in the earlier example of the export of computers from the United States, simply substituting U.S. export of license rights (a "service") for export of computers.

If the licensing transaction as described is at arm's length, that is, between parties with opposing interests in its terms, this example presents no fresh administrative problems. New issues may arise, however, if, as is typical, the payoff to the licensor were to take the form of a share of the profits from the sale of computers by the French licensee, or a royalty per unit sold in the future. The conceptually "correct" accounting for this transaction would be to value the sale of license rights at $1 billion, which has direct tax consequences only in the origin-basis system. The subsequent actual payoff to the U.S. owner of the rights would be treated as a financial transaction, with no direct tax consequences in either system. In the case of an uncertain return, the indirect tax consequences of the financial portion of the transaction would be different under the origin- and destination-principle regimes, as discussed above.

But the actual terms of the transaction may not reveal this conceptually correct amount. Using as an alternative the cash-flows attributable to the licensing arrangement (royalties), for example, will give a different result. (If one can ignore timing issues, the tax consequences of this approach will be an economically equivalent result if the arrangement is at arm's length.) There are no direct tax consequences, in any case, in the destination-basis system; in the origin-basis system, the direct tax liability will be proportional to the payment, of whichever form. In particular, the risky form may include a "supernormal return" element.

Where, however, the French company is, in fact, owned by the U.S. computer company, the licensing transaction is functionally internal to the firm, whatever may be the legal structure of the two companies. In the origin-basis system, the terms of the transaction matter. Now there are two problems. The first is converting the possibly contingent terms of the transaction (for example, a royalty per computer) into the arguably correct equivalent certain current amount. This is no different from the same problem for arrangements reached at arm's length.

Much more serious, and also sometimes described as involving supernormal returns, is determining appropriate arm's lengths terms, whatever their form. It is because the transaction is effectively within a single entity that we refer to its terms on the books of the two nominally separate companies as transfer prices. Such transfer prices may serve various internal management purposes but because they have no significance outside the firm apart from their use in determining tax or other regulatory consequences, they can be adjusted to take those consequences into account.

To address this possibility, all major trading countries have adopted one form or another of the OECD Guidelines on transfer pricing which require such prices, or the terms of transactions more generally, to be those that would be reached at arm's length. If the two companies are dealing in bushels of corn, it is a straightforward matter to determine the requisite arm's length price. When, however, they are dealing in complex goods and services, as in the example of a license to sell a particular form of computer, the arm's length standard may leave a wide range of choice for the taxpayer companies. (It is sometimes argued that, because the economic justification for ownership extending across national borders may be synergies internal to the firm, arm's length terms may not even be well defined.)

To illustrate, suppose the U.S. parent knows that computers can be sold for $1000 but this is not a fact easily discerned by the tax authorities. The U.S. parent therefore licenses the wholly owned French company to sell computers for a royalty of $500 per computer, or $0.5 billion for the sale of 1 million computers in the illustrative transaction. In a destination-basis U.S. tax system, these terms are of no significance, since the sale of services to the foreign company are not taken into tax directly. The payoffs to such foreign investments are, however, reflected indirectly in the tax base, when they affect imports of goods and services (which are sold in the United States subject to tax but support no deduction). In the origin-basis system, the royalty determines the U.S. tax base of $0.5 billion in this case, compared to the $1 billion tax base that would have obtained under arm's length terms. The profit obtained by the French subsidiary can then be repatriated to the parent company as a dividend on equity,

a financial transaction that is not taken into the X tax base, directly or indirectly, under the standard X tax rules.

As the example indicates, the transfer-pricing problem is potentially more serious under an origin-type X tax than under the current income tax because of the different treatment of dividends. Under the current income tax, the issue is one of deferral of the taxation on the earnings. Under the origin-basis X tax, the issue is one of complete avoidance of the tax. (The difference is not absolute. If the repatriation of earnings is sufficiently delayed in the income tax, the tax on dividends may be effectively zero. There may also be other ways of repatriating earnings that avoid income taxation.) I suggest below nonstandard rules to apply to the transactions between parent and foreign subsidiary to address the transfer-pricing problem.

Administrative Properties

Double Taxation and the Crediting of Foreign Taxes

In the present international income tax system, it is generally accepted that a country has priority in the taxation of income arising within its borders. (For a discussion of the basic principles of the U.S. international income tax regime, see Ault and Bradford 1990.) It is not often recognized that underlying this principle is a distinction as to the location of income that is actually at variance with the traditional motivation for income taxation, the Haig-Simons definition of income: Income is the sum of a person's consumption and increase in wealth during the year. The only location involved is that of the person; location or source does not attach to income as such. (Confusion on this point is reflected in the traditional emphasis on the principle that income is "regardless of source," a nonsensical distinction under the Haig-Simons definition.)

Complications arise when the concept of income is extended to a company, in which case distributions to owners replace consumption. (For discussion of the Haig-Simons idea, including its extension to companies, see Bradford 1986.) Since a company is ultimately owned by individual people, an income tax levied on the basis of a company's income presents a problem of double taxation. In the purely domestic context, this is the problem of integration of corporation and individual income taxes. In the international context the question is how income of a company located in one country (the source country) owned by a company located in another country (the home country) should be taxed. To drastically simplify one of the most complex areas of tax law, the general rule in the United States is that a U.S. parent company is liable for tax on income of all its component companies, wherever located. The United States acknowledges, however, the primacy of the income tax claim of the source country. To ameliorate double taxation, the United States allows the parent company credit (up to a limit) against its U.S. income tax for foreign taxes paid by its foreign subsidiaries on their income.

For reasons probably related to the income and value-added "metaphors" that have guided the development of the two types of tax, income and value-added, the issue of double-taxation does not arise in the case of a tax like the company tax component of an X tax, which is a value-added tax variant. To illustrate, consider the case of a French company, with no assets and no liabilities but with a scientific genius on the staff, who comes up with a software application immensely popular with French customers (and with no one else). To sell the application, the company prints the program on compact disks. Suppose the cost of the disks is negligible, as is the salary of the scientific genius. The French company's accounts are then simple: receipts from sales, a big number;

outlays for production and sales, negligible; other costs, negligible; annual income, a big number.

If this company were subject to French X tax at a rate of 25%, or to a value-added tax at the same rate, then 25% of the annual big number would be paid in tax. The same would be true if it were subject to an income tax at a rate of 25%. If this company were 100% owned by an American parent, the income tax that it paid would give rise to a credit in the same amount against the parent's income tax liability. But no U.S. credit would be provided for the French value-added tax. (For U.S. income tax purposes it would be, in effect, deductible, since earnings ultimately repatriated would be net of the French tax.)

The big difference between the company component of an X tax and a standard value-added tax is the treatment of wages, which are deducted under the former and not under the latter. On the one hand, this might motivate an argument for a foreign tax credit for the company component of an X tax; equally, it could motivate a foreign tax credit for a standard value-added tax, with an appropriate correction for the wages that are a part of a company’s value-added tax base but not in an income tax base. Present doctrines clearly exclude a credit for any part of a value-added or cash-flow tax (the United States will not allow credit for a foreign tax that does not include a deduction for interest, for example) and I presume that there would be no credit generated in the United States for foreign X tax payments by a subsidiary of a U.S. parent.

I have mentioned the presumption that there would be U.S. company entities for activities within the United States. The tax credit situation could be complicated if the national identity of "company subject to X tax" were not unambiguous, so that more than

one country claimed X tax from the same company. As far as I know, mutually exclusive definitions of companies characterize present value-added tax regimes, as is presumed in this discussion of an X-tax regime. The hybrid origin-basis system discussed below would, however, oblige giving some close attention to this issue. (For discussion, see Lokken 2001.)

Domestic vs. Foreign Source

In order to implement the present system of crediting foreign income taxes paid (subject to a limit), a distinction is needed between domestic and foreign-source income. The usual economic concept of income relates to a person or family and has no location other than that of the person. The idea of "source" is, however, needed in the implementation of limits on the foreign tax credit. I suspect that the ambiguity of the idea at the most fundamental level is a reason that sourcing rules are so controversial and arcane. (For some further development of this point, see Ault and Bradford 1990 and Bradford 1993.) The X tax is simpler because it has no need to locate income. It only needs to locate the parties to transactions.

Efficiency properties

Generic Efficiency Features of this Type of Tax

This is not the place to go into an extended review of the efficiency properties of this type of tax (see Bradford 1986). If the tax rate is constant over time, it is neutral with respect to the timing of people's consumption. This well-known property of consumption taxes with constant rate over time has often been taken by others as the main ground for advocating such taxes as alternatives to income taxes.

An X tax provides neutrality with respect to all financial margins. For example, there is no bias toward or against debt as opposed to equity finance of companies. There is no lock-in with respect to positions in financial assets, no bias toward or against particular assets based on their different patterns of realization relative to accrual. An X tax is neutral with respect to all real investment margins (with the important exception of human capital formation). The tax has no impact on the choice among different forms of depreciable capital, inventory investment, or intangible investment. These neutralities would hold for a perfect accrual income tax as well, but do not hold for a practical, realization-accounting tax, even less for a system with a classical corporation income tax.

An X tax is nonneutral with respect to labor supply. In economists' jargon, the tax puts a wedge between the social payoff to an increment of work effort and the amount received by the supplier of that effort. This lack of neutrality is shared by all consumption taxes and by income taxes. If a worker stayed permanently in the same bracket, or if appropriately designed averaging were available, under an X tax, the wedge would be zero for a worker within the zero bracket range of the compensation tax (negative if the worker is eligible for an earned income credit) and equal to the top rate for a worker in the top bracket range of the compensation tax. As under the existing income tax, the graduated rates of the compensation tax would tend to penalize human capital formation.

Features Relating To the International Context

Neutrality With Respect To Location of Production

Either an origin-basis X tax or a destination-basis X tax would be neutral with respect to the location of incremental real investment of the conventional sort. This is the

type of investment that we usually think of in relation to “capital export neutrality” and “capital import neutrality” as policy objectives. Consider an investment opportunity, defined by cash flows, gross of tax. Investment decisions will be based on cash flows, net of tax.

Capital export neutrality for the U.S. investors holds if an investment opportunity that is a barely breakeven proposition if it is undertaken in the United States is also a barely breakeven proposition if it is undertaken anywhere else in the world, taking into account the tax consequences at each location. Capital import neutrality for investors from different countries holds if a breakeven investment project in the United States for a U.S. investor is also a breakeven project for foreign investors. These neutralities are arguably desirable to assure the world's capital is deployed to maximum advantage.

These properties depend, in general, on the tax systems used by all countries. For example, an idealized system of national income taxes, with every country providing its investors unlimited foreign tax credits, would have both sorts of neutrality everywhere. I should stress "idealized," however. Even if it were the intent of policy makers to accomplish this result, it would be difficult to implement with conventional income taxes. A worldwide system of X taxes, with no cross crediting, should, however, be quite feasible and would have the property of capital export and capital import neutrality universally, without restriction as to the rate of tax in any country. This property follows because an X tax does not put any wedge between the before- and after-tax rates of return at the margin, at home or abroad.

Another important class of investment choices involves the location at which a new idea is exploited. Suppose a U.S. company has an idea for a new video game. The

production cost of copies of the game is close to zero; duly licensed watermarked copies will trade freely internationally and transportation costs are negligible. Where should the inventing company have the thing produced? Since it doesn't cost anything to produce the good, taxes constitute the only locational factor.

Once again, a numerical example may be helpful. Imagine a world in which only the United States has a tax and it is at a rate of 20 percent, expressed on a tax-inclusive basis, so selling something for $1.25 implies a tax liability of $0.25. Exports are excluded from the destination-basis tax base, so competitive forces will tend to push the price of this illustrative good to $1.00 abroad. (I neglect transportation cost.) Similarly, a foreign-produced good that sells for $1.00 abroad will sell for $1.25 in the United States. With an origin-basis tax, there is no exclusion of exports from the domestic base, so competitive forces will tend to push the prices at home and abroad to the same level, say $1.00 in this case. (The absolute price level is indeterminate in this little story.)

Suppose an origin-basis tax applies. Then copies of the game will sell for the same price at home and abroad; specifically, suppose each copy will sell for $100 and there is a market for 5,000 copies abroad and 5,000 copies in the United States, for a total value of sales of $1 million. With proper transfer-pricing rules, having the game produced abroad will produce $1 million in payments from the foreign company for the rights. This will be treated as a sale by the U.S. X tax, so the inventing company's owners net $800,000 from the game, the same amount they would net if they produced at home and sold the copies themselves. (If, on the other hand, through transfer-price manipulation, the royalties can be understated, with the profits returned in a form not subject to U.S. X tax, there will be a payoff to location of production abroad.)

Suppose, instead, a destination-basis tax is used. Then, if the price of the game abroad is $100 it will sell for $125 in the United States. Again, the net-of-tax proceeds are the same, regardless of the location of production. If the game is produced at home, the domestic sales net the company $500,000, as do the foreign sales, for a total of $1 million. It may appear that the inventor is better off under these arrangements, but that neglects the difference in U.S. price levels in the two examples, it being 25 percent higher in the second case. The purchasing power of what the inventor nets is the same in both examples.

Neutrality With Respect To Location of Consumption?

I have emphasized the economic equivalence of origin- and destination-basis taxes. There are, however, in practice differences between the two. An important instance derives from the difficulty of measuring the consumption of a resident of one country physically present in another country. In international accounts, expenditure by a U.S. tourist in France is treated as an import by that person from France to the United States. If the tax system cannot catch this expenditure, the equivalence that I described earlier between origin- and destination-basis taxes systems is not precise.

I have refered to the incentive, under a destination-basis tax, to shop in the country with the lowest tax rate as the "tourism problem." If boundaries can be monitored, this incentive is eliminated except to the extent that both the shopping *and* the consumption are done in the low-tax country.

We can add this phenomenon to any of our illustrations above. Suppose our conventional good is produced by labor alone. The worker gets $1.00 and the producer breaks even by selling the good for $1.25 and paying $0.25 in tax. In terms of this good,

the worker's earnings on this deal at home are only 0.8; that is, he or she can buy just 0.8 units of the good with the wages earned in producing it. On the other hand, the worker who goes abroad with the wages earned can buy 1 unit of the good. This is the tourism problem. The country with the destination VAT penalizes visiting tourists and rewards its own citizens who shop abroad.

The efficiency consequences of the tourism problem depend upon the tax rates at home and abroad and on the possibilities for substitution between consumption at home and abroad. So in our example, the U.S. worker has no incentive to consume abroad if the French impose a destination VAT at the same rate as does the United States. Suppose, however, the French have no VAT but all U.S. workers like to combine consumption at home and abroad in rigid proportions. Then the opportunity for consumption in France has the efficiency impact of lowering the effective U.S. VAT rate, or, equivalently, the effective tax on U.S. earners, but no other efficiency consequences.

More plausible in this case would be both intertemporal and locational effects, as workers find it in their interest to save at a higher rate while residing in the United States and then consuming the extra savings abroad in retirement. The tourism problem is encountered in the U.S. tax system currently in the form of debates over an "expatriation tax." Because the U.S. system has substantial elements of accrual accounting and because changing citizenship is a much more significant step than changing location of residence, the extent of the tourism problem is probably very much lower under present U.S. law than it would be under a destination-principle X tax. Not only would the dot-com-generation inventors of our illustrative game have an incentive to migrate to a low-

tax jurisdiction; ordinary folks with ordinary retirement incomes might find it worthwhile as well.

Equity issues

Generic Distributional Features of this Type of Tax

An X tax is capable of just about any degree of progressivity. Since, as a matter of administrability, the top rate of compensation tax is limited to the rate of business tax, and it is probably desirable, also as a matter of enforcement, not to have too high a rate of business tax, one might argue that the existing system is capable of imposing a heavier burden at the very high reaches of the income distribution. On the other hand, the fact that we have in the past had company tax rates in the neighborhood of 50%, suggests a range of possible policies that is not usually associated with a flat tax.

Some will probably object that there is something inherently regressive about using a consumption measure, rather than an income, measure as the basis for discriminating among taxpayers. How can a tax system that exempts "income from capital" be as progressive as one that taxes income from capital? I will not rehearse the arguments that, starting from first principles (that is, not taking income as the right measure of ability to pay as a matter of definition), one is quite likely to conclude that excluding income from capital (suitably defined) from the tax base is plausibly appealing in its own right. (See Bradford 1986 for extensive discussion of this equity issue.) Rather I would emphasize my view that there is a general misperception of what income from capital is. Most of what we regard as business income would be subjected to tax by an X tax. (Consider the tax levied on those copies of the French game.) The realization is slowly spreading among those of us who work on tax policy (it dawned on me rather

late in my career), that the difference between a well-designed income tax and just about any consumption-type tax is entirely in the taxation of the risk-free return to wealth. I would argue that this does not amount to much in the context of the debate about the choice between systems. (It is not easy to know how to estimate "the" risk-free rate of return. In the United States, the Treasury bill rate, corrected for inflation, averaged less than 1% per year during the 20th century.) Most other payoffs to investment and enterprise are equally taxed or missed by both types of tax. (For more discussion of these points, see Bradford 1996a.)

Specific Features of the International Version

Inter-Nation Equity

I think the main fresh equity issue raised by extending the X-tax to the international economy relates to concerns about equity among nations or "inter-nation equity." I have always been uneasy with the notion that nations, as opposed to individual people, have tax equity claims. It may be, however, that there is a correlation between national welfare and the circumstances of residents of different countries that would unify the two perspectives. Rather than tackle this question, let us consider the implications for an X-tax regime of the traditional viewpoint that there is an ethical claim by a country to revenue associated with income produced within its boundaries (with, to be sure, a residual claim by the country of residence of the owner of that income).

It would seem to me – and I confess to being unsure whether this captures the right idea – that an origin-basis X tax would satisfy the demands of the traditional view. Basically, all business "income," as defined by the X-tax rules, would be subject to tax in the origin country. That the income so defined excludes what amounts to the risk-free

rate of return times the real wealth tied up in the enterprise seems to me a minor matter quantitatively. I recognize that others may disagree with the quantitative assessment, which ought to be a valid subject of analysis and discussion. If, however, the basic premise is accepted for purposes of discussion, the further conclusion follows from the economic equivalence of an origin- and destination-basis X tax that the latter equally satisfies the demands of inter-nation equity. In that case, a choice between them could be made primarily on administrative or other grounds unrelated to inter-nation equity.

Equity Aspects of the Tourism Problem

The tourism problem would be just an efficiency problem if everyone were alike. If, however, there is a systematic difference among people classified, say, by earnings level, tourism consumption could diminish the progressivity of an X tax system, as high-earners took advantage of the option to consume their accumulations abroad. Consider the case of a person who earns a fortune in one country (typically, a high-tax country) and retires to another country (typically, a low-tax country). If an origin-basis tax is in place in the country in which the fortune is earned, the person will bear that tax on all of it. If a destination-basis tax is in place, the person's tax liability will be divided between the two countries according to the rate in effect at the time and place the consumption occurs. It is not obvious which of these two outcomes is more equitable or exactly what standard of equity one would apply. There is, however, a difference between the two systems to take into account when choosing the preferred tax policy.

Transition and Tax Rate Changes over Time

The transition to an X tax raises a particularly important set of allocative efficiency and equity issues that bear on the choice between origin- and destination-basis

approaches. Since the treatment of international business in the existing income tax system is essentially on an origin basis (exports are counted in income and imports are deducted), it is the potential shift to a destination-basis tax that poses the distinctive problems. This, in turn, is most easily analyzed in terms of a switch from an origin- to a destination-basis X tax. This transition amounts to an increase in the tax rate "forgiven" on exports and imposed on imports from zero (under the origin-basis tax) to the full X tax business rate (under the destination-basis tax). Furthermore, the problems associated with this transition are repeated any time there is a change in the business X tax rate in a destination-, but not in an origin-, basis tax.

A similar phenomenon is encountered in the choice between a cash-flow business tax and an economically equivalent tax that uses income accounting for business assets, including a separation of capital and current transactions, with an allowance of a deduction for the capital tied up replacing the immediate expensing of capital outlays. I think it will help understanding of the international tax problem to review the transition issue in this purely domestic context that gives rise to the suggested introduction of elements of income accounting.

Generic Features of Transition to this Type of Tax

Transition to a consumption type tax, such as the X tax, from an income type tax with current accrual accounting, such as the existing system, raises issues of both incidence and efficiency. (For a review of what is meant by “consumption-type” and “income-type” taxes, see Bradford 1986.) Most of those engaged in tax policy debates are familiar with the major point: Shifting from accrual to pure cash-flow accounting imposes a one-time tax on "old capital" or, more precisely under income tax accounting

conventions, "existing basis" in the nonfinancial assets of businesses (Bradford1996a, 1998; Pearlman 1996; Hall 1996; Zodrow 2002). Whether this is fair in the context of a major tax restructuring is debatable (Kotlikoff 1996; Shaviro 2000). It is not debatable that it presents significant incentive problems, since taxpayers can mitigate the burden of the transition impact by selling their assets to increase consumption in anticipation of the change in regimes. Both equity (accepting the premise that it is unfair to impose such a transition burden on taxpayers) and efficiency considerations support adoption of the income style accounting for business activity that I briefly alluded to above. (If all that were involved were a one-time change in the applicable X tax business tax rate, from zero to some fixed level, the same result would be obtained with cash-flow accounting by permitting immediate expensing of business asset basis carried into the new regime.)

The Tomato Juice Problem

I like to use the following numerical example to illustrate this problem of transition from an accrual business income tax to a cash-flow business tax (Bradford 1996a). A retailer is in the business of buying canned tomato juice and holding it to sell. In this case he purchases $10,000 worth of canned tomato juice on December 31, 2003. The next day, the cash-flow business tax replaces an accrual income tax. The retailer sells the tomato juice for on January 1, 2004, for an apparently break-even sum of $10,000.

Under an accrual income tax, inventory accounting rules would result in no deduction at the time of the $10,000 purchase. Instead, the cost of the tomato juice inventory would capitalized, added to the company’s tax basis in the form of inventory,

and be recovered as the "cost of goods sold" on January 1. So there would be no income tax liability effects in either 2003 or 2004 due to this sequence of transactions.

Under a cash-flow business tax, there would be a deduction of $10,000 in the 2003, reflecting the cash outlay for the purchase of the tomato juice from another company. The sale of the tomato juice in 2004 would result in taxable income of $10,000 in that year. Neglecting the timing, if the rate of tax were the same in both years, these two effects would be offsetting.

The problem that would arise upon a shift in tax regime, from the accrual income rules to the cash-flow business tax, is that the there would be no opportunity to recover the basis of the tomato juice inventory. Outlays in 2004, not outlays in 2003, are deductible in 2004. So the deduction that was, in effect, postponed from 2003 under the accrual income tax, is lost. The retailer is stuck with the full amount of the tax on his inventory.

The effect that is so dramatic in this example of a very short-lived asset, in the form of inventory, would obtain as well for assets of any tax lifetime. Absent special corrective rules, the effect of the shift in regime is to impose an extra tax on the income tax basis of a company's assets. The extra tax remains, regardless of the character of the economic adjustment to the changed regime (for example, it is unaffected if there is a general price level increase in the amount of the new tax; see Bradford 1996a).

To work out the incidence and allocational effects of the transition, we need to think through how people would behave to avoid the burden. The traditional approach treats the introduction of the cash-flow tax as a completely unanticipated event (Feldstein 1976). In that case, the transition effect (the tax on the inventory of tomato juice) is

completely borne by the taxpayer who happens to own the assets affected. At the other extreme, if the introduction of the tax is anticipated far in advance, no one will be foolish enough to hold assets across the boundary of introduction of the cash-flow accounting *unless* doing so is rewarded by an appropriately high real reward. In the case of the tomato juice example, businesses would presumably hold inventory from December 31 to January 1 of the transition year only under the expectation that consumers will pay a premium for the service provided by the retailer – as an alternative to buying their tomato juice before the transition and storing it in their kitchen cabinets. The generic point is that, in the absence of transactions costs, an *anticipated* change to the cash-flow from an income tax regime – or of an *increase in the tax rate* under a cash-flow regime – cannot impose any particular tax burden on the owners of the assets subject to the transition penalty. Instead, it will impose a tax disincentive on pre-transition investment with returns extending into the post-transition period – driving up the pre-tax rate of return and driving down the interest rate applicable to commitments that cross the temporal boundary between the two regimes. There would then be a positive incentive to invest right after the transition – driving up the interest rates for commitments extending forward from the transition boundary. The incidence effects are those of the peculiarly time-varying rate of tax on the return to investment, with its associated impact on efficiency.

The incidence of an unanticipated decline in a cash-flow tax rate, and the incentive effects of an anticipated decline in the tax rate, are simply the opposite of those for an increase in the tax rate.

Using Income-Style Accounting to Avoid the Problem

The use of income-style asset accounting combined with a deduction for the capital tied up in a business (as reflected in basis), which has been alluded to at various points in the story so far, is intended to deal with these incidence and incentive effects. A perhaps little-recognized strength of true accrual income as a tax base is its insensitivity to changes in the rate of tax. Income tax accounting principles incorporate this idea in their insistence on associating income with particular years – rules that would measure income over several years but give effect to the same discounted tax, given a constant tax rate, are therefore generally shunned. (For an example of a system that would use such an equivalence, see Auerbach and Bradford 2004.)

This property can be turned to the service of a consumption-type tax by making use of the familiar tax-accounting concept of basis in real assets. In practice, this would mean maintaining something like the present system of accounting for depreciable assets and inventories instead of the expensing of capital outlays of the classic cash-flow consumption-type tax. To preserve the consumption base as the effective principle, an allowance would be provided for the cost of capital deployed in the business, calculated as the product of an appropriately chosen rate of interest and basis (Bradford 1996a, 1998). (This should not be confused with a deduction for interest paid; there would be neither taxation of nor deduction of interest payments in the system.)

Boadway and Bruce (1984) may have been the first to describe the theoretical underpinnings of this system, which was actually briefly put into practice in Croatia (Rose and Wiswesser 1998). Its implementation presents a number of challenges worth closer examination that we can undertake here. Two such challenges, however, merit

mention. The first is the determination of the appropriate rate of interest to use in the calculation of the cost of capital used in the business. The idea is that a business owner should be indifferent between the depreciation plus interest on basis that goes with an investment and immediate write-off, taking due account of the possibilities that financial markets will present opportunities to convert one form of cash flow to another. The second is the system's call for information on accruing changes in asset values. This requirement has long been recognized as an Achilles heel of the accrual income tax standard. In this connection it is significant that, unlike for an income tax, accuracy in the timing of deductions is unimportant so long as the rate of tax is constant. The cost of capital allowance compensates for postponing deductions, and reduction of the allowance offsets the advantage of any acceleration of deductions, relative to the mark-to-market standard, that the rules may allow. (Throughout this paper I abstract from an important aspect of capital accounting, the need to allow for inflation in rendering comparable amounts at different dates.)

As in theoretical Haig-Simons income accounting, ideally, assets should be accounted for on a mark-to-market basis. That is, the value of an asset on a company's tax books, its basis, should equal its market value. This result is, for example, the objective of "economic" depreciation allowances. An accruing increase in value of an asset during the year would be counted in the company's taxable income in that year and also added to the basis of the asset, eligible for the interest allowance and recoverable as a deduction upon disposal of the asset. The fact that, for a variety of reasons, actual business income accounting does not produce this result is unimportant, as far as the X tax consequences are concerned, as long as the rate of tax is constant (because deviations

are compensated for by the allowance of interest on basis). Matching the basis of assets to market value is important only under conditions of changing tax rate. To illustrate, suppose inventory with market value $100 is carried on a company's books with a basis of $50. If the tax rate is going to increase between the present and the next period, it is advantageous to realize now, so that the $50 excess of basis over market will be taxed at the present, rather than the next-period rate. The opposite holds if the basis of the asset is $150, $50 over current market value. Then it will pay to postpone realization. These accelerations and postponements translate into systematic distortions of investment. The workability of imperfect asset accounting in the X tax context is premised on the likelihood that tax rate changes will be relatively slow, infrequent and hard to predict and on the fact that realizing what one might call the fundamental market value of typical business assets is not easy. (By definition, one can realize the market value of an asset defined as what one can sell it for.)

Specific Features of the International Version

The Fundamental Problem of Rate Changes in a Destination Tax

The choice between origin- and destination bases for the X tax regime raises similar problems. We can get a feel for them by imagining what would be involved in making a switch from an origin- to a destination-basis tax.

Since the issues here are all about timing, and not about production of different goods in different countries, we can examine them in a stripped-down model with just a single good (corn) that can be produced in either of the two countries (United States and France) and that can be consumed or invested in capital in either of the countries. In the example at the beginning of the paper we took as a condition a situation of balanced

trade. Now we are interested precisely in the possibility of unbalanced trade, so we need to introduce the element of time, which I do by specifying a two-period world. As in the earlier example, we assume that there is an X tax (or subtraction-method consumption tax on goods and services) in the United States only. Any taxes in France use some other approach. The U.S. tax may be of either the destination- or origin-type.

Start with an origin-basis tax, say at a rate of 25 percent; the price of corn in the two countries must be the same, say $1 per bushel. In France, the wage rate is also $1 (some other tax is used to pay for government); in the United States the wage rate is $.75. In the first period, the good is exported and imported in some quantities, and at the end of the day there exist various borrowing, lending, and wealth-holding (stocks of corn) situations, some crossing the national border.

We need not go through all the details; it suffices to illustrate the problem created by a shift in the U.S. tax from origin to destination basis between the first and second period. Between the first and second period, shift to allow exclusion of exports from a 25 percent U.S. tax and eliminate the deductibility of imports. Now, to equilibrate trade in the single commodity, the price has to change in the United States or France. Suppose it drops in France and stays at $1 in the United States; stocks of corn in France now sell for $.75 per bushel, instead of $1. For someone planning to consume in France, this is no problem. But there is a problem for a U.S. resident, owning a stock of corn in France but desiring to consume at home. The value of the claim on the foreigner for this purpose will have fallen by the amount of the tax. Other possible equilibrating changes will all have the same economic effect.

Thus, suppose I, a U.S. resident, own a stock of corn in France. I got my stock by sending some corn to a French consumer in the first period. Before the destination tax, I could import my stock to the United States without tax. In the new situation, when I want to bring my corn home to the United States, I must pay a tax of $.25 per bushel, based on its U.S. market price of $1 per bushel. So I only get to consume three quarters of what I had anticipated at the time of my export to France.

The impact of a shift in regime from an origin to a destination basis is analytically the same as an increase in the rate of a destination-basis tax from zero to 25 percent. More generally, the incidence phenomenon sketched here would accompany any change in the rate of a destination-basis tax. (A drop in the rate would imply a gain for me with respect to my corn in France.) As in the analogous case of an increase in the rate of a cash-flow tax in a purely domestic setting, in the international context, incidence effects – gains and losses based on saving or portfolio commitments established before the policy shift – depend on whether the change is, as in the example, completely unanticipated. If the policy change is completely anticipated, the incidence effects must be built into the projected returns on investment. In the example, I would certainly not have exchanged my corn in the first period for a claim on an equal amount of corn in France, to be redeemed (with an ordinary rate of return) in the second period. Either the actuality of a change in tax regime (or tax rate) or the risk that it might happen would, in theory at least, greatly influence the international capital market.

An unanticipated shift from an origin-basis tax to a destination-basis tax would impose a one-time tax at the X tax rate on the net claims of U.S. taxpayers on the rest of the world. If the net claims are positive, the tax is a loss to the U.S. claimants and a gain

to the U.S. fisc. If the net claims are negative, the tax change would generate a gain to the U.S. claimants and a cost to the U.S. fisc. Corresponding to these incidence effects would be incentive/allocative effects to the extent the change in policy is anticipated, and there would be ongoing incentive/allocative effects from the ongoing risk of tax rate changes.

It would be useful to know how important, quantitatively, are the incidence and efficiency effects of tax rate changes, such as would be involved in a shift from the present origin-basis tax to a destination-basis X tax. What one may think of as the direct impact incidence – since it is the product of the tax rate change and the net claim on foreigners (which could be positive or negative) – is sensitive to the size of that net claim. If the foreign claims on the United States and the U.S. claims on foreigners are equal, a completely unexpected tax change would not have U.S. tax revenue consequences (at least in terms of present discounted value). Still, U.S. owners of claims on foreigners would lose and foreign owners of claims on U.S. residents would gain from an increase in the tax rate or shift from origin- to destination-basis tax. Furthermore, the incentive effects of anticipated rate changes do not depend upon the balance of claims. It is hard to image that an anticipated change from 0 to, say, 28 percent would not have quantitatively significant impacts.

It is true that European economies have made the transition to destination-basis value-added taxes of 15-20 percent without obvious consequences of the type I have described but it is not clear that anyone has looked for such consequences. Furthermore, it is well known that the European value-added taxes, at least initially, substituted for turnover taxes of broadly similar economic character. One could describe their

introduction as a rationalization of a destination-type value-added tax structure. Consequently, without having done the hard work to assess the proposition, I would surmise that the issue raised here is quantitatively significant.

In most of the examples I chose to look at a change from an origin- to a destination-basis tax advisedly. Since the treatment of sales and purchases of goods and services in the U.S. income tax is today on an origin basis because business sales to foreign customers are counted in gross income and purchases from abroad are deducted, on a delayed basis if on capital account, adopting an origin-basis X tax would presumably have relatively small incidence and allocation effects of the sort described above.

Coordination of Tax Systems in a Transition

The problems of coordination between the tax system in the United States and those of other countries in the process of a possible switch to an X tax regime will depend on the details of the system chosen by the United States, whether origin- or destination-basis, the speed of transition and the extent to which other countries are pursuing a similar shift in tax regime. Filling in a table of possibilities would take us far beyond the broad-brush treatment that is my objective in this book.

If, however, the process were to involve a relatively slow, phased transition into an X tax – especially into an origin-basis version – and out of the income tax in the United States, it is not obvious that there would be particularly acute coordination issues. In Bradford 1996a I describe a transition whereby the X tax is introduced as an extra schedule in the existing income tax. A taxpayer's liability is *x* percent of the otherwise applicable X tax and (100-*x*) percent of the existing income tax. The percentage *x* would

increase from 0 to 100 over a period of years. Suppose we were to envision a seven-stage transition to an X tax with a business tax rate of 28 percent, so a four percentage point increase in the business tax rate each time, with a stage lasting two years.

Consider what happens at the first stage. What is involved can be compared to a jump in a European VAT rates by four percentage points except that, if an origin-basis X tax is involved, much less revision in fundamental international economic relationships is involved. At the same time, the U.S. income tax burden would be cut by about 15 percent. Economically, it would be like a fairly modest acceleration of deprecation allowances under the income tax. Such a back-of-the-envelope calculation does not substitute for more elaborate and careful analysis of a specific plan but the exercise suggests that the stress imposed internally by a given stage in such a transition would not be very large, even if there is no coordinated movement in the same direction by other countries.

A Remedy for the Transfer-Pricing Problem in an Origin-Basis X Tax

In view of the advantages of the origin-basis approach which I have identified: reduced transition problems, including ongoing transition problems associated with tax rate changes, no need to monitor the borders for tax purposes, and no "tourism" problem, a method of reducing or eliminating the transfer-pricing problem would be of considerable value. In what follows I suggest such a method.

Tax-Prepayment and Qualified-Account Alternatives

Students of consumption-type taxation will be familiar with the theoretical equivalence between two treatments of saving transactions. In the language of Blueprints for Basic Tax Reform (Bradford et al 1984), under certain assumptions, "tax-

prepayment" and "qualified-account" treatments give rise to economically equivalent results. Under the qualified-account approach, amounts saved are deducted from the tax base; all dissaving, which includes any return on the amount set aside, is included in the tax base. This is the effect of cash-flow accounting for business investment and is the treatment given to tax-qualified retirement saving in the present income tax. By well-rehearsed reasoning, with a constant tax rate, qualified-account treatment of saving has the economic effect of exempting the return to the amount saved from tax.

Under the alternative, tax-prepayment, accounting, the amounts saved are not deducted from the current tax base of the saver (hence "pre-taxed"). Instead, all amounts flowing back to the saver in the future, due to yield or return of principal, are ignored. By construction, the return to the amount saved is exempt from tax.

Under the X tax, a portfolio investor in a foreign (or any other) company has what amounts to tax-prepayment treatment. The amount invested, a financial transaction, is ignored, as is any amount that the investor obtains in return. The same accounting is given to an arm's-length investment by a domestic company in a foreign company – both the amount invested and any return, whether labeled dividend or return of capital, are ignored. If the tax rate were constant, however, the same result could be obtained by granting the domestic company a deduction for amounts invested in the foreign company and taxing all the amounts flowing back.

In the Blueprints framework, the tax treatment of transactions is to some degree tailored to income-measurement issues that are presented. Thus, ordinary businesses have to be accounted for on a qualified-accounting accounting basis because there is no way to sort out the portion of the payoff to the business that is due to the amount invested

and the payoff due to entrepreneurial skill, invention, etc. On the other hand, qualified-accounting treatment is denied to investments that yield their payoff in services directly to the investor, as in the case of owner-occupied houses, other consumer durables, fine art, etc. These investments must be accounted for on a tax-prepayment basis.

The approach to non-arm's-length investment in a foreign company proposed in this section would, in similar spirit, require tax-qualified treatment for investment by the domestic company in a controlled foreign subsidiary. All amounts transferred by the parent to the subsidiary, including any initial investment involved in setting up the company, would be deducted by the parent, and all return flows would be subjected to tax. (Analogous treatment would apply to the U.S. subsidiary of a foreign parent. So, amounts invested by the foreign parent would be treated as taxable receipts to the subsidiary; dividend from the sub to the parent would be deducted from the domestic tax base.) As is argued here, with a constant tax rate, this step alone would deal with the transfer-pricing problem. A tax rate that changes over time, as would, in particular occur under a transition to an X Tax system, requires that the deduction of amounts transferred from parent to sub be replaced by an addition to the parent's basis in the sub, which would earn interest credited through the tax system until the basis is resolved, generally through a return flow of dividends from the sub.

The main elements of this system are described in the next subsections.

Bundled Accounting for Foreign Subsidiaries: The Domestic Installment-Sale Analogy

The Cadillac Problem

The cross-boundary transfer-pricing problem is analogous to the problem of taxing the domestic sale to a consumer (or a nontaxable entity) of an ordinary commodity

on an installment basis. I call this the Cadillac Problem. It refers to situations where the taxpayer can potentially convert real sales income into untaxed financial income. In the standard X tax accounting (as under a conventional value-added tax), interest received is not included in tax. By tying the sale of a Cadillac with the credit sale contract, specifying a low price on the car but a high rate of interest on the loan, a retail dealer can hold the buyer harmless but convert part of the payments into a nontaxable form. A similar logic would be at work when a company sells a product to its foreign subsidiary for an artificially low price. In this case the payment in return takes the form of a financial transaction (a dividend) that is not subject to X tax.

I use "foreign subsidiary" to stand for "related party" here. In arm's length transactions, the two parties have opposing interests in the terms; tax authorities rely on those opposing interests to keep the parties honest. The key question is whether transactions involve adequate opposition of interests. If not, the parties are treated as related. Implementing the approach I am about to outline would require a specification of these conditions.

McLure and Zodrow (1996) regard this problem as sufficiently serious to merit aggregating all transactions of companies, financial and real, in determining the cash-flow business tax base, thereby implementing an "R+F" ("real plus financial") company tax, in the terminology of the Meade Committee (Institute for Fiscal Studies 1978). A more narrowly targeted remedy in the installment sale case is to require cash-flow treatment of the tied transaction (Bradford 1996a,b); all payments, whether nominally financial or not, are taken into the tax base. So if the financing is not organized at arm's length, the seller is taxed on all payments received for the car, however labeled and at

whatever time. The characteristic exemption of interest in a consumption-basis tax means that the seller will be indifferent between arm's length terms and the bundled terms.

Changing Tax Rates over Time with Bundled Financial and Real Accounting

Once we are in this world, however, there are fresh incentives when the tax rate is not constant. By charging a low price for the car and high interest rate on the loan, the seller can move tax base from the present into the future. If the future tax rate is lower than the present, this is advantageous. Conversely, if the tax rate is going up in the future, by charging an above-market price for the car and a below-market interest rate on the loan, the seller can concentrate the tax base in the current period. Protection against such manipulation can be implemented by a requirement that the car sales price be an arm's length price. (A possible alternative or additional requirement would be arm's length conditions on the loan that is embedded in the installment contract.) This may seem to leave us with the problem we started with. But typically the stakes will be much lower because what is involved is the change in the tax rate over time, rather than avoiding tax altogether (and with the possibility of rate changes either up or down, gaming the system is more difficult). This reduces the importance for tax administration of getting the price "right."

Applying the Approach to Multinational Corporate Family Members

The case of related-party transactions across national jurisdictional boundaries in an origin-basis tax is similar to the installment-sale example in involving conversion of a taxable sale to a nontaxable financial payments. I suggest a two-part approach to related-party transactions. First all transactions between related parties, whether for goods and

services or equity interests should be aggregated and taxed. With a constant tax rate, this step alone would be sufficient. The possibility of anticipated changes in the tax rate calls for the second second element of the system, deploying the income tax concept of basis, together with the allowance of a deduction for a company's basis in a foreign subsidiary, to control the timing of the tax base.

To use the basic bundling approach of the installment sale example, when Ford U.S. (FUS) sells motors to Ford Canada (FC), its wholly owned subsidiary, all payments from FC to FUS with respect to these engines would be taken into U.S. tax, as representing current or deferred payment for the motors. The analysis goes through as before, including the U.S. tax system's stake in getting the nonfinancial price (the price of the motors) "right" when the tax rate is changing through time.

There is a fresh difficulty, however. It will generally not make sense to isolate a single sale and its consequences. When FUS sells motors to FC at a below-market price, the payoff is higher future dividends from FC to FUS, which are the result of all the operations of the two companies, not confined to the transactions involving the motors. The suggested remedy is to treat the entire financial relationship on a bundled basis, that is, on a qualified-account basis, in Blueprints terminology. Any financial transfer from FUS to FC would be deducted and any payment from FC to FUS would be included in U.S. tax.

To illustrate, suppose the U.S. parent knows that computers can be sold for $1000 but this is not a fact easily discerned by the tax authorities. The U.S. parent therefore licenses the wholly-owned French company to sell computers for a royalty of $500 per computer, or $0.5 billion for the sale of 1 million computers. In a destination-basis U.S.

tax system, these terms are of no significance, since the sale of services to the foreign company are not taken into tax directly. (The payoffs to such foreign investments are, however, reflected indirectly in the tax base, when they affect imports of goods and services, which are sold in the United States subject to tax but support no deduction.) In the origin-basis system, the royalty determines the U.S. tax base of $0.5 billion in this case, compared to the $1 billion tax base that would have obtained under arm's length terms. The profit obtained by the French subsidiary can then be repatriated to the parent company as a dividend on equity, a financial transaction that is not taken into the tax base, directly or indirectly, under the standard rules.

If the transactions between parent and sub are bundled, the conversion of real to financial transaction is prevented. The dividend from the sub to the parent is taken into the parent's tax base. So any saving in the parent's tax due to understating the royalty is offset by an equal increase in tax as a result of the consequently larger dividend.

Note that this result is obtained in the current income tax regime, under which the dividend from sub to parent is included in the parent's tax base. Deferral of income, not complete avoidance of tax is the mischief accomplished by transfer-price techniques in the income tax. It is crucial for the effectiveness of the bundling approach that under a consumption-type tax (with constant tax rate) timing doesn't matter. Both the fisc and the taxpayer should be indifferent between the tax consequences of current repatriation on the one hand and future repatriation of the same amount plus the normal rate of return on the other hand. In a consumption tax with constant tax rate, deferral is neither objectionable to the fisc nor attractive to the taxpayer.

An objection is often raised that the indifference referred to here is unpersuasive in the case of deferral "forever." What if the parent never repatriates the earnings of the sub? At a theoretical level, the answer has to be that there is a big difference between the parent company putting off the repatriation, for however long, and simply canceling the claim on the subsidiary (imagine a foreign government confiscating the subsidiary). The home country tax remains as a fractional claim on any repatriation, no matter when it occurs. At a practical level, the fact that the parent should be indifferent about the timing of the repatriation cum tax implies both a test of the adequacy of the rules and an opportunity to design rules to compel companies to keep repatriations "up to date."

Keeping up to date is the essence of the second element of the approach to multinational taxation suggested here. Although it is of no theoretical importance when the tax rate is constant, it is critical to deal with the problems that arise when the tax rate is not constant. Treating cash flows between parent and sub on a cash flow basis, which would give rise to the "right" result with a constant tax rate, would open up a hole in the tax system under changing tax rates. By large transfers to and from a foreign sub, a U.S. parent could exploit even small year-to-year differences in the U.S. tax rate. A possible remedy for this problem, as in the analogous domestic situation discussed above, is to follow principles of timing underlying the existing income tax, in which income is assigned to particular years so the taxpayer does not have a choice in this regard.

The Use of Basis

In a purely domestic context, the X tax would use capitalization rules for ordinary business assets more or less along present lines. The difference from an income tax would be that the X tax would allow an additional deduction for the normal return on

basis. In the international context, the analogous reasoning would apply to an equity position in a foreign subsidiary. Now a cash transfer from parent to subsidiary gives rise, not to a current deduction but to an addition to parent's basis in the subsidiary. A transfer from the subsidiary to parent – that is, a dividend – would be deducted from the parent's basis.

The basis device with respect to transfers between parent and subsidiary protects against essentially unlimited exploitation of tax rate variation across time. As in the installment-sale case, there remains the potential to exploit tax rate variation via transfer prices in the "real" domain. To illustrate: FUS sells FC $1m worth of motors for an artificial transfer price that means FUS is paid only $700k. This reduces the FUS tax base by $300k, compared with a transaction at arm's length. To simplify, suppose the interest rate is zero. Next year, FC sends home to FUS the profit of $300k made on the sale of the motors (presumably built into their assembled cars). If the tax rate is lower in the second year than in the first, FUS gains from this set of transactions. The required remedy is the same as in the present system, to attempt to assure the price of the motors is the arm's length price. The fact that the stakes in the proposed approach are in the intertemporal difference in the tax rate, not in timing (because of the interest allowance on basis) or the entire rate, should help to make it workable.

We can check that the approach works for relations between a foreign parent and U.S. sub: Suppose Farma Switzerland (FS) sells its products through a wholly-owned U.S. subsidiary, Farma U.S. (FUS). The basic rule is that a transfer of funds from FS to FUS is included in the U.S. tax base of FUS, and a transfer from FUS to FS is deducted from the U.S. tax base of FUS. For the same reason discussed above, these inclusions

and deductions would be run through basis accounting but that is primarily directed at the problem of time-varying tax rate. We can more easily trace the logic of the system by using the straight inclusion and deduction approach. To simplify, assume the interest rate is zero (and that investments earn exactly the market rate of interest). If FS transfers $1m to FUS and earns the going rate of return, FUS will be liable for tax on the $1m inbound investment and will get a deduction of equal discounted value when it returns the investment, plus profit, to FS.

Now suppose FS sells $1m worth of cosmetics to FUS for $1.3m. The immediate impact is a deduction of $1.3m from the FUS U.S. tax base. But a further impact is a reduction, by $.3m, of the deduction for profit remitted by FUS to FS, compared to the accounting at the arm's length price. So there is no tax benefit from manipulating the transfer price.

As in the example of the U.S. parent and Canadian sub, because there would be an advantage from this sequence of transactions in the event of time-varying U.S. tax rate, there is a U.S. tax system stake in getting the transfer price right. The possibility of time-varying tax rates also means that the treatment of transfers would run through basis. In the example, when If FS transfers $1m to FUS, there will be no current U.S. tax consequences but FUS will have a negative basis (i.e., liability) in the amount of $1m. When there is a positive rate of interest, FUS will be charged for holding the negative basis (possibly by additions to the negative basis). When FUS transfers to FS, there is a conceptual deduction but this is replaced by an addition to basis in the amount of the rebated profit.

Mark to Market?

The potential to profit from timing of transactions (for example, by the sale of assets in the simple domestic setting) is eliminated by true mark-to-market accounting for assets. The use of conventional depreciation accounting is necessarily accepted for ordinary business assets because market values are not available. Note that with a constant tax rate, these timing issues are of no significance in a present value sense. In the international setting, analogous reasong would call for adjusting the U.S. firm's basis in its foreign subsidiaries by the amount of accounting profit or loss. In the framework of the discussion above of income-style accounting, unrepatriated foreign profits would be treated as an estimate of the accruing market value of the position. In present-system terms, there would be no deferral of foreign income or loss. Unrepatriated earnings of a subsidiary would be taxed currently to the parent but added to basis. (Losses of a subsidiary would result in a current deduction by the parent and subtraction from basis.) Because basis earns an interest allowance, there would be no present-value significance to getting this exactly right over time spans with constant tax rate. Getting it right is significant only with changing tax rate.

Recovery of Basis

It may be asked, what is the consequence of dividends from a foreign subsidiary exceeding the basis of the parent in the sub? Similarly, if the foreign subsidiary is a loser and never sends home dividends, or sends home dividends cumulating to less than the parent's basis, would the parent ever be able to recover the undeducted basis?

It should be stressed that the, important, questions are ones of practice, not concept. Under ideal conditions, as under an ideal income tax, a company's basis in its

subsidiary would just equal the market value of the position. In any given year, basis would be adjusted by the earnings of the foreign sub. Under conceptually accurate income measurement, these earnings would be precisely the change in value of the position, up or down. Hence the adjustments to basis each year should imply there is no possibility of dividends exceeding the parent's basis, nor of a positive basis persisting when the foreign position is worthless.

Under the practical likelihood of dividends exceeding basis, the presumed rule would be to tax such dividends currently (much as the sale of an asset for more than its basis results in current taxation of the difference). In effect, such dividends reflect mistakes in past income measurement. For the same reason, one might need to provide rules whereby a parent could write off undeducted basis, as might be alternatively accomplished by sale of the position at arm's length.

Treatment of Loans and Transition

Among details to be resolved in implementation of the suggested system is the identification of the transfers between related parties that are brought into the system and treatment of positions of firms prior to the system's introduction. I can do no more here than suggest approaches to these issues. As to the first, transactions labeled "debt" between parent and subsidiary could be used to exploit differences between the domestic and foreign tax rates. As in the case of the domestic installment sale example, erring on the side of bringing too much into the comprehensive accounting (so taxing all payments for the car) is, in principle, a safe course. The result is a wash if the transaction is on arm's length terms. Questions of monitoring and administrative costs would probably dominate in evaluating alternative rules.

As for the second issue, in the transition to a purely domestic X tax, companies would carry basis in their real business assets into the new system. Exactly analogously, a U.S. company's basis in ownership claims to affiliates (and perhaps for debt claims, depending on the treatment chosen for related-party debt), would be treated like basis in real assets. For a foreign-owned U.S. company, the relevant basis would be negative, reflecting the equity claim of the foreign parent.

Resurrection of the Foreign Tax Credit?

The remedy to the transfer pricing problem sketched above might jeopardize the clear identification of taxable businesses within a single country. The example of a destination-basis VAT gives the idea. In that world, there is no ambiguity about who has the claim on taxes from an entity with a conventional definition. With transactions at arm's length, an origin-basis system does not *per se* seem to threaten the possibility of a clear separation into nationally-identified companies. At least it seems reasonable to presume a parallel treatment of transactions by different taxing jurisdictions. What is treated as a taxable receipt in one country will be allowed as a deduction from tax in the other, granting that there may be some differences as between consumption-basis and income-basis systems that could lead to complications.

In the bundled-accounting system described above, even if both countries adopted the same X-tax approach, parallel treatment of transactions in two countries might strain acceptability. Consider the case of a wholly-owned subsidiary of a U.S. company operating in France that does nothing but import from the United States goods produced by the parent and sell them, at arm's length, into the French market. For purposes of the present example, we can skip the basis treatment and assume everything happens within

the same period. Perhaps the French company would hire some local labor and buy some local services from other French companies. All surplus is sent home to the parent. The French X-tax base of this company would be zero: sales, less purchases from other French firms (no deduction for the imports from the parent, because not at arm's length), less payments to workers, less dividend paid to the U.S. parent.

Conceptually, this is the "right" result. The question, which I leave unanswered, is whether the conceptually correct answer would have sufficient strength in a political context to withstand the pressure to treat the dividend as under present law, namely, as not deductible by the French company. If this were to happen, one could imagine political pressure for a foreign tax credit, based on a double-taxation argument.

If this were to be the anticipated world, and if the advantages of the origin approach are regarded as sufficient, formula apportionment of the income of commonly owned companies would deserve a closer look. It is, however, beyond the scope of this paper to explore that avenue in any detail.

Conclusion

I conclude from this exercise that, judged by traditional tax policy criteria, a general regime of national X taxes has the potential to cut through a number of policy knots. At the same time, both "pure" variants of the treatment of international business, destination- and origin-basis, have drawbacks in implementation. Absent special rules to deal with it, the origin-basis X tax makes even more serious the transfer-pricing problem that plagues the existing international tax system. On the other hand, the destination-basis tax imposes a requirement to monitor imports by individuals, creates incentives for people to locate their consumption in low-tax jurisdictions, and sets up distorting

incentives upon transition – transition both to the X tax system from the present system and to a changed tax rate from the existing rate in an ongoing system.

Although I have not dwelled on it here, there is no denying the simplicity advantage of the straight cash-flow treatment of sales and purchases of goods and services in the purely domestic context, or of the destination-principle extension to international transactions. The main justification for considering the modification in the domestic rules, involving capital accounts for businesses and a deduction for the capital thus tied up, is to neutralize the system with respect to changes in the business tax rate over time, especially the change that would occur as the new system is introduced. The same justification applies to the attempt described in this paper to use an analogous approach to implementing origin-principle treatment of sales and purchases that cross international boundaries.

The main challenge in implementing the origin approach is dealing with transfer pricing by which companies can manipulate the terms of transactions among commonly owned entities in different countries, so as convert income from taxable to nontaxable form. The basic tax planning tool is to convert real (taxed) to financial (normally not taxed) transactions. The remedy suggested here builds on an analogy with an installment sale to a consumer in the purely domestic context, which presents the opportunity, through non-arm's lengths terms of the financial part of the contract, to convert taxable to tax free payments. In the case of commonly owned domestic and foreign companies, the line is between domestic and foreign tax jurisdictions, and the details of the aggregation, involving the use of capital accounts and a corresponding deduction for business capital, are somewhat more involved.

There is no doubt that the approach I have outlined is more complicated than the destination principle's exclusion of goods and services transactions. On the other hand, the fact that it relies on basically familiar concepts from income tax accounting is a strength. If successful, it would open the possibility for achieving the advantages of the origin-basis approach without its principal negative feature.

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