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# Financial Transactions Taxes

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## Abstract

Financial transactions taxes have recently gained attention as a possible means to influence the behavior of financial markets and to reduce destabilizing capital flows. One variation is a tax on all foreign currency conversions, often termed a "Tobin tax." This paper suggests that these taxes would probably not produce the desired effects and would be difficult to design and implement. It is unclear that the possible advantages in reducing some short-term speculative trading would outweigh the possible disadvantages in impairing the efficiency of financial markets. From an administrative perspective, without a broad international consensus and application, these taxes are likely to be easily avoided.

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## Contents

## Summary

Recent volatility in world financial markets has generated interest in ways in which the tax system can be used to reduce destabilizing capital flows and, hence, to diminish volatility in securities prices and exchange rates. There has been a revival of interest in a proposal by Professor James Tobin to tax foreign currency conversions (now often referred to as the "Tobin tax"). To gauge the effects of a Tobin-type tax, this paper analyzes it from the wider perspective of financial transactions taxes in general. Such taxes typically take the form of excises levied on transactions in financial assets (in a domestic context) or on transactions involving currency conversions (in an international context).

The economic effects of financial transactions taxes on capital markets are seen to be pervasive. They may impose significant efficiency costs by impairing the smooth functioning of financial markets, increasing the cost of capital, and distorting the structure of capital financing. Their effects on the volatility of capital flows, either in domestic or international financial markets, are uncertain, as are their distributional and revenue effects.

Furthermore, the paper concludes there is no easy way to design a uniform financial transactions tax. Transactions taxes applied at a uniform rate on all financial instruments would have different effective tax rates depending on the maturities and holding period of the assets. Derivatives also complicate the design of financial transactions taxes, since under a comprehensive regime they should be taxed, yet it is difficult to achieve equivalent taxation of cash and derivative instruments. Financial intermediaries pose another set of difficulties. Finally, there is the problem of foreign substitution: shifting the location of trade in financial assets to avoid taxes is relatively easy.

Similar and other shortcomings are found to the Tobin tax specifically and its variants, as well as to the other approaches that have been taken or proposed to influence international capital flows. While some of these approaches may have short-term uses, in the long term they would be unlikely to produce the desired effects, would be difficult to design and implement, and would be politically contentious. The main drawback is that it is unclear that the possible advantages in terms of reducing some short-term speculative trading would outweigh the possible disadvantages of impairing the efficiency of financial markets. In addition, from an administrative perspective, without a broad international consensus and application, these taxes are likely to be easily avoided.

## I. Introduction

Growing international trade and investment have led to the increasing integration of world economies and financial markets. In addition, the opening up of East Asia, the inward-looking economies in South Asia, and the ex-socialist economies in the former Soviet Union have provided an impetus to the forces of internationalization and commercial liberalization. As a result, the international dimensions of tax policy have taken on greater importance. 1/ Financial transactions taxes are levied by both industrial and developing countries. Although these taxes may significantly alter the behavior of financial markets, only recently have they begun to be examined extensively.

Recent volatility in world financial markets has generated interest in ways in which the tax system can be used to reduce destabilizing capital flows, and hence, to reduce securities price and exchange rate volatility. There has been a revival of interest in a proposal by Professor James Tobin to tax foreign currency conversions (now often referred to as the "Tobin tax"). Some prominent political leaders have noted that taxes on financial transactions, such as the Tobin tax, could also generate significant revenue, which could be used to supplement existing multilateral assistance for social and economic development in developing countries. However, the advisability of such taxes is open to question. Many economists have discouraged their use, arguing that they would not reduce volatility in financial markets, but instead would impair the efficient functioning of financial markets, would be costly to implement, and would be easily avoided. 2/

In order to fully gauge the effects of a Tobin-type tax, it is useful to analyze it from the wider perspective of transactions taxes that could be imposed on domestic or international transactions. Although domestic securities transactions taxes have been widely used in industrialized and developing countries, taxes on international transactions have been less widely used (see Spahn, 1995). 3/ The experiences of countries that have imposed these taxes, on either domestic securities transactions or foreign currency conversions, illustrate some of the difficulties that could arise in their application. Moreover, important theoretical arguments also weigh against the use of transactions taxes as a means to influence the behavior of domestic and international financial markets or as a way to raise revenues for international development.

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1/ For a general discussion, see Shome (1995): Chapters I (Shome, on broad aspects), V (Stotsky, on financial taxes), and VI (Faria, on international coordination).

2/ For a discussion of these issues, see Greenaway (1995), Eichengreen, Tobin, and Wyplosz (1995), Garber and Taylor (1995), and Kenen (1995).

3/ Although, of course, various types of fees typically apply to both domestic and foreign financial transactions.

Financial transactions taxes can take many different forms. In a domestic context, these taxes are usually excises levied on transactions in financial assets, including stocks, bonds, futures, options, and other derivative instruments. In an international context, these taxes are usually excises levied on transactions involving currency conversions (for transactions in financial assets, goods, and services). Although typically levied on an ad valorem basis, they may also be levied on a specific basis. For instance, securities transactions taxes levied on stocks and bonds are typically levied on an ad valorem basis, while those levied on derivatives, such as futures contracts, may be levied on a per contract basis.

This paper examines the role of financial transactions taxes. Section II summarizes the main efficiency, distributional, and revenue issues that arise in the debate over transactions taxes. Section III discusses the economic issues that arise in their design. Section IV describes the Tobin tax. It also presents alternative variants to the Tobin tax which have been proposed to curb speculative capital flows. In concluding, Section V argues that, on balance, such taxes cannot be recommended either on efficiency or administrative grounds.

## II. Economic Effects of Financial Transactions Taxes

Financial transactions taxes may have pervasive effects on capital markets. They may impose significant efficiency costs, by impairing the smooth functioning of financial markets, increasing the cost of capital, and distorting the structure of capital financing. They are likely to have uncertain effects on the volatility of capital flows, either in domestic or international financial markets. Their distributional effects are uncertain, with the burden initially falling on financial markets, but later probably being shifted to all owners of assets and even to labor. The international incidence effects are uncertain. Finally, the revenue impact of such taxes is hard to predict, as static revenue estimates are likely to be highly misleading.

### 1. Efficiency of financial markets

One principal argument against financial transactions taxes is that they would reduce market efficiency (see Hubbard, 1993; Hakkio, 1994; Kiefer, 1990; and Schwert and Seguin, 1993). It is widely agreed that efficient domestic and international financial markets are characterized by low transactions costs. Since financial transactions taxes would increase such costs, they would impose an efficiency cost on financial markets, by creating an incentive for investors to hold on to financial assets rather

than to trade them. 1/ The distortion in trading patterns would impose a cost on investors by inducing them to hold a less desired portfolio and impose a cost on markets by reducing both arbitrage and speculation on prices, which may be stabilizing (see Kupiec, 1995). Also, financial transactions taxes would increase the taxation of income from capital, increasing before-tax rates of return and the cost of capital. In the long run, increasing the cost of capital could lead to lower rates of capital formation and economic growth.

If these taxes applied only to certain assets, they would shift investment to untaxed assets, adding to distortions present under existing tax systems. For instance, under a securities transactions tax, if equities were taxed and debt untaxed, investors would shift from equity to debt. This increase in leverage could have efficiency costs, by inducing excessive levels of debt, possibly accentuating already existing biases in the income tax system. If only domestic transactions were taxed, transactions would quickly move offshore. In international markets, if transactions taxes applied only to certain currencies, traders would shift into other currencies. If transactions taxes applied to all currencies, traders would shift into vehicle currencies so as to avoid making currency conversions. This would increase costs for small, not widely traded, currencies.

2. Volatility in capital flows and asset prices

Although financial transactions taxes would increase transactions costs, it has been argued that they would still improve the overall efficiency of financial markets because they would reduce trading, thus contributing to reduced volatility and therefore risk (which would reduce before-tax rates of return and the cost of capital). Yet the opposite has also been argued, that reduced trading would lead to less liquid markets, thus contributing to greater volatility.

The effect of transactions costs on the volatility of domestic and international financial markets thus becomes an important empirical issue. The key empirical questions are: how would financial transactions taxes influence the behavior of financial market participants and how would these changes in behavior affect the volatility of financial markets? Regarding the former, the evidence from financial markets is inconclusive: while such taxes appear to alter the composition of trading, it is less clear that they affect the overall volume of trading or of capital flows. Empirical relationships between the volume of trading and capital flows and market volatility are also uncertain.

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1/ Since transactions costs in domestic and international markets have fallen significantly during the last few decades, a small transactions tax would still leave transactions costs below historical levels. Nevertheless, earlier high levels of transactions costs were not necessarily appropriate and may have hindered the efficient operations of financial markets.

More generally, empirical observations do not provide a basis for asserting a firm link between transactions costs and volatility. In the past, transactions costs in domestic and international financial markets were generally larger than today. Large fluctuations in capital flows and prices were also observed. In recent years, average transactions costs in the United States have fallen significantly for stock market investors. If transactions costs reduce volatility, this decline in transactions costs should have led to an increased volatility of the stock market. Yet Schwert (1993) found that stock market volatility in the United States has not increased in recent years, though there is conflicting evidence on this. The behavior of stock markets in other countries also sheds light on this issue. Hakkio (1994) examined the stock market crash in October 1987 and found that it was as severe in countries with domestic securities transactions taxes as in those without (e.g., Sweden and Switzerland both had relatively high transactions taxes and experienced larger percentage drops in the stock market price index than the United States or Canada with none). Against these results that suggest that reduced transactions costs did not lead to higher volatility, Kupiec (1991) found that average stock market volatility in OECD countries has increased in recent years, largely owing to periods of abnormal volatility (although he did not explicitly link this volatility to changes in transactions costs).

Real estate markets also offer evidence on the relationship between transactions costs and volatility. Real estate markets typically have large transactions costs, yet they are quite volatile in terms of investment flows and price, again suggesting the absence of a strong link between transactions taxes and volatility.

Turning to the studies examining direct links between transactions taxes and volatility, some theoretical arguments have recently been offered which suggest that they may reduce volatility in financial markets. Summers and Summers (1990) have argued that financial transactions taxes would reduce the harmful destabilizing speculation which arises from short-term trading, since it is this type of trading which would be disproportionately reduced by such taxes. Their argument is based on the assumption that there are two types of investors. One type trades on the basis of an asset's "fundamentals" and tends to sell when prices rise and buy when prices fall. These investors, whom they term "negative feedback" investors, act in such a way as to reduce volatility. Other investors, whom they term "positive feedback" investors, act in the reverse manner, trading more frequently. Any curbs on short-term speculation through a financial transactions tax would be more likely to discourage these positive feedback investors and reduce asset price volatility. Grundfest and Shoven (1991) have responded to this argument by suggesting that financial transactions taxes could alter the behavior of <u>both</u> types of investors, thus discouraging stabilizing and destabilizing traders; thus there is no reason to presume that they would disproportionately reduce the activities of the latter.

Summers and Summers (1990) have also argued that financial transactions taxes would discourage investment by those whose information is not based on

fundamentals, but are rather "noise traders," thereby improving the functioning of markets. Again, there is no empirical evidence to demonstrate that these taxes would disproportionately reduce the relative importance of trading by noise traders. Overall, the Summers and Summers (1990) view, while an interesting hypothesis, seems to have generated only limited support in the literature.

Few formal statistical studies have explicitly attempted to link financial transactions taxes and volatility. Roll (1989) examined stock market volatility in 32 countries from 1978 to 1989 to examine whether volatility was related to margin requirements, price limits, and transactions taxes. He found no evidence of a systematic relationship between either financial transactions taxes or margin requirements and volatility.

3. Distributional effects

While economists typically focus on issues of economic efficiency, the political debate on taxes often hinges on issues related to their distributional effects, which, for financial transactions taxes, are complex. Initially, their burden is likely to fall on the participants in financial markets, including investors and borrowers, and the financial services industry. This would suggest that their incidence would be progressive, since higher income individuals tend to hold most financial securities. However, in industrialized economies, institutional investors hold a considerable share of financial securities. In particular, pension funds, insurance companies, and mutual funds hold the assets of a broad cross-section of the population, which would tend to reduce the progressivity of these taxes. In addition, to the extent that the burden of these taxes is shifted through behavioral changes on to all assets, the incidence could fall on an even broader cross-section of the population, including home-owners and others. Since it is unlikely that the tax would be fully shifted to investors in financial securities, the financial services industry would also probably bear some of the burden of the tax. In the long run, however, if the financial services industry is competitive, a large part of the tax would be shifted to investors.

If financial transactions taxes depress capital formation, then the tax might result in a somewhat lower rate of capital investment. In a general equilibrium context, one might anticipate adverse effects on the stock of capital per worker and eventually real wages, thus shifting some of the burden of the tax from owners of assets to workers, further reducing the progressivity of these taxes.

In an international context, the incidence of transactions taxes on currency conversions would be borne by the countries that levy them and on the countries that use currencies subject to the tax. A general tax on currency conversions would fall most heavily on countries trading in international financial markets, though the absolute and relative incidence would vary depending on the size of the nation and its trading sector.

4. Revenue productivity

One appeal of financial transactions taxes has been their potential to raise large amounts of revenues with low tax rates, given the large tax base implied by the high level of financial transactions. For instance, the value of stock transactions on the New York and NASDAQ stock exchanges (the two major U.S. stock exchange markets) was US$3.9 trillion in 1994. A static revenue estimate (excluding behavioral changes to the tax) of a tax on stock market turnover at a tax rate of 1 percent would result in revenues of US$39 billion per year. Global net turnover in the world's foreign currency markets (spot, forward, and derivative contracts) is on the order of US$1 trillion a day. A static revenue estimate of a tax on foreign currency transactions at a tax rate of .01 percent (i.e., 1 basis point) would raise about US$25 billion per year (based on 250 business days per year).

However, the potential revenue from such a tax would depend on the nature of the tax, the scope of its coverage, the tax rate chosen, and the behavioral effects on financial market participants induced by its imposition (see Hubbard, 1993). Static revenue estimates would be misleading because these taxes would change financial markets in fundamental ways, altering both the price and volume of the assets being traded (and thus the size of the tax base). Most likely, imposition of a financial transactions tax would lead to a decline in the price of taxed assets (similarly to the imposition of other taxes on capital). Full capitalization of these taxes would cause taxed assets to drop in price by the present discounted value of the expected tax liabilities. Moreover, such a tax would also affect the volume of trade. The split between changes in price and changes in volume of trade would depend on the relevant elasticities of demand and supply for the assets. The overall decline in the price of a security would be larger, the more frequently the asset had been traded prior to the imposition of the transactions tax or the smaller the responsiveness of trade in the asset to the tax. The combination of changes in the value and the trade volume is difficult to predict. Nevertheless, given the sophistication of financial markets and the ability of market participants to construct alternative financial instruments, the substitution away from taxed assets could be quite large and quite rapid, reducing revenues from the tax. Revenue estimates must therefore take into account these adverse effects arising from behavioral reactions by market participants.

There could also be offsetting indirect revenue effects from the imposition of financial transactions taxes. If these taxes depress asset prices, capital gains tax receipts would experience a one-time fall. Further indirect revenue effects would result from the effect of these taxes on the operation of financial markets and the overall level of economic activity.

## III. Issues in the Design of Financial Transactions Taxes

Many economic issues arise in the design of financial transactions taxes, given the breadth of commonly available financial assets, the purposes that these assets serve, and the substitutability possible among alternative assets.

### 1. Coverage

In its broadest form, financial transactions taxes should apply to all financial transactions, regardless of whether they involve domestic or foreign financial instruments, and no matter with whom and where a particular transaction takes place. If the goal is, narrowly, to influence international capital flows, it may be desirable to limit the coverage of the tax to transactions involving currency conversions. However, there is no exact equivalence between capital flows and foreign currency transactions. In some cases, foreign currency is exchanged between residents of a country with no corresponding capital flow and in other cases, capital flows may take place across national borders using a common currency. Clearly, the usefulness of a tax on currency conversions as a means to influence capital flows diminishes, the greater the share of transactions taking place in these forms.

### 2. Short-term versus long-term transactions

There is no easy way to design a uniform financial transactions tax. Transactions taxes applied at a uniform rate on all financial instruments would have different effective tax rates depending on the maturities and holding period of the assets; with a single ad valorem rate, the effective burden on assets would be higher, the shorter the maturity. For instance, a 0.3 percent tax on a 30-day security would be roughly equivalent to a 3.6 percent annual tax, in contrast to a 0.3 percent tax if a one-year security were held to maturity. If assets were taxed before maturity, this would complicate the picture; a frequently traded long-term asset would face a higher tax burden than one with the same maturity held to maturity by a single investor. Transactions taxes levied equally on all assets would thus effectively tax more heavily short-term assets and those traded more frequently.

An important issue in the design of such taxes is whether it is desirable to tax short-term transactions more heavily. As noted above, proponents of financial transactions taxes have argued that short-term traders are precisely those whose activities are most destabilizing and thus advocate financial transactions taxes on the grounds that they would effectively target this group. Nevertheless, the case for limiting the activities of short-term traders is not persuasive. Indeed, a strong case can be made that short-term capital flows (and long-term capital flows) have benefits, among others, in forcing governments into credible and consistent policies. Moreover, financial transactions taxes would have a negative effect on the short-term liquidity trading of financial institutions.

Financial institutions rely heavily on short-term financial assets to hedge currency and other investment risks and to provide liquidity to enterprises and individuals. The transactions of financial institutions in short-term financial assets promote stability in financial markets. Financial transactions taxes might induce investors to substitute long-term for short-term financing, thereby imposing efficiency costs on financial markets. There is considerable difficulty, therefore, in arguing in favor of such taxes as a means to reduce short-term capital flows.

In principle, financial transactions taxes could be levied at different rates according to the maturity of the financial instrument. 1/ However, such differential taxation would have uncertain economic consequences and would distort the term structure of interest rates, thereby obscuring the useful role it plays in financial markets. A policy of exempting short-term instruments may also create a bias in favor of the use of short-term debt; moreover, investors could synthesize long-term debt with a series of shorter-term debt instruments. Differential taxation would also be administratively difficult.

3. Debt and equity

Another issue arising in the design of a financial transactions tax is whether it should be equally applied to equity and debt, and whether public debt should be exempt. Transactions taxes levied on public debt could increase the cost of debt issuance to governments. Exempting public debt from such a tax (e.g., a practice followed by Japan and Taiwan Province of China) would contribute to the inefficiency already generated by other forms of preferential treatment of government debt, such as the exemption of the interest income on such assets from income tax.

Transactions in equities pose fewer difficulties in being incorporated into a transactions tax than debt transactions since equity generally has no fixed maturity. Effective tax rates thus vary only with the holding period of the asset. In addition, since governments do not generally issue equity, there is less reason to be concerned that markets for government securities would be disrupted. However, if equity were included and debt (or some forms of debt) not included in the coverage of a transactions tax, this would necessitate a means to classify instruments into equity and debt. In modern financial markets, however, it is sometimes difficult to make this distinction; indeed, financial markets now include instruments that have the characteristics of both, such as preferred stock and convertible debt. Often these instruments have been developed precisely as a means of disguising equity as debt, thus allowing sophisticated investors to minimize tax liabilities because of the typically more favorable treatment accorded to debt. If transactions taxes were applied differentially to these instru-

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1/ Indeed, some countries have explicitly exempted short-term debt instruments from transactions taxes to avoid disruptions to markets for short-term debt.

ments, this would just enhance the tendency to create financial instruments that have characteristics of both, complicating tax administration.

4. Derivatives

Derivatives also complicate the design of financial transactions taxes. Derivatives are financial instruments whose value is derived from the value of an underlying instrument, such as equity or a basket of currencies, but which are not the instrument itself. Derivatives play a valuable role in modern domestic and international financial markets, transferring the risks associated with owning financial instruments, but without requiring the actual ownership of the instrument. Such instruments have grown rapidly and now form a quantitatively significant segment of financial markets (see IMF, 1995). They are especially important in foreign exchange markets.

Under a comprehensive transactions tax, transactions in derivatives should be taxed; otherwise, investors could construct equivalent positions with derivatives as they would with cash instruments. However, it is difficult to achieve equivalent taxation of cash and derivative instruments. Consider, for example, a futures contract. A tax on the value of a futures contract would understate the value of the underlying assets on which the futures contract applies, but taxing the underlying value of the assets would be onerous unless the tax were levied at a much lower rate than on ordinary equity or debt. Indeed, such a tax could potentially wipe out such markets. Futures (and forward) markets play an important role in hedging price and exchange rate risks, and the disruption of these markets would be undesirable.

The difficulties in levying transactions taxes in foreign currency derivative markets is illustrated by the experience of Italy. To reduce speculation against the lira, Italy levied a tax on forward purchases or sales of foreign exchange. To avoid the tax, traders created a "domestic" currency swap market on the interest rate differential between the lira and other currencies, to be settled in lira. Eventually, this duty was abolished (see OECD, 1995).

The taxation of options also raises difficult and complex issues. Placing a tax on the exercise price of an option creates a disadvantage for trading in options relative to the cash market, because to replicate price performance in the cash market with options requires twice as many transactions as the underlying shares. For example, in equilibrium, an investor who buys a call option and sells a put option (of the same price and maturity) gets the same return as an investor who holds the underlying stock, yet

engages in twice as many transactions. 1/ If the tax applied only to the option price, rather than to the price of the assets, then this would encourage trade in options and discourage trade in the underlying assets.

With derivatives, it would not be necessary to levy the same rate of tax on the underlying instruments as on the derivative products (e.g., a different rate of tax might apply to the option price than to the underlying stock value); however, this raises difficult questions with respect to setting the relative tax rates. Given the complexity of the strategies underlying the use of derivatives, it would probably be impossible to establish one rate applied to derivatives and one to the underlying instruments that would yield exact equivalences.

5. Financial intermediaries

Financial intermediaries pose another set of difficult problems in designing a financial transactions tax. Imposing transactions taxes on intermediaries can multiply the number of times a financial asset is taxed. This cost is likely to be shifted to the consumers of intermediary services. Exempting intermediaries from transactions taxes would encourage their use, irrespective of any economic advantages associated with their activities, thus reducing the efficiency of financial markets. In some cases, it may be difficult to identify intermediaries. Nevertheless, some transactions taxes exempt market makers from the tax (e.g., the United Kingdom) or tax them more lightly.

Mutual funds are an example of an intermediary where the tax could apply not only to the transactions of investors with a particular fund, but also to the transactions of the fund in buying or selling assets in its portfolio, thus raising the effective tax burden compared to an investor who purchased the instruments directly. While it would be possible to tax only the investor's transactions in the fund or the fund's transactions in the

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1/ A call option gives the buyer the right to buy a specific number of shares from the writer (seller) of the option at a specified price at any time until the expiration date of the contract. The contract price is known as the exercise price. A put option gives the buyer the right to sell a specific number of shares to the writer of the option at a specified price at any time until the expiration date of the contract. The premium or option price specifies the cost the buyer must pay the seller of the option. If an investor buys a call option, the value of the call rises when the price of the stock rises above the exercise price. When the investor buys a put option, the value of the put rises when the value of the stock falls below the exercise price and the seller of the put loses an equal amount when stock prices fall. Therefore, to buy a call option and to sell a put option, with the same exercise price and expiration date, recreates the investment outcome of a buyer of the stock whose price is the same as the exercise price of the options.

instruments in its portfolio to yield a better equivalence, such an approach could create opportunities for tax evasion.

6. Foreign substitutions

The increasing international integration of financial markets ensures that there would be international dimensions to any kind of financial transactions tax, even one focused only on domestic trade in financial assets. If transactions taxes applied to transactions only in domestic markets, investors could substitute foreign trading as a means to avoid the tax. Shifting the location of trade in financial assets is relatively easy, with trade shifting to other countries or to locations with established financial markets. For instance, a considerable amount of trading in the equities of the United States takes place in London.

Sweden's experience with securities transactions taxes, analyzed in Campbell and Froot (1993), illustrates the pitfalls of limiting the tax to domestic transactions in securities. Beginning in 1984, Sweden began levying a series of transactions taxes on domestic securities transactions, including a 0.5 percent tax on the purchase and sale of equities, a 2 percent round-trip (i.e., buying and selling) tax on the option premium, another 1 percent tax on the exercise price of the option, a 1 percent round-trip tax on interdealer equity trades, and a tax on fixed income securities and associated derivatives, such as interest-rate futures and options at variable rates. Ultimately, however, in response to the perception that these taxes were ineffectual and driving financial transactions offshore, Sweden began to abolish these taxes, fully eliminating them by 1991.

The securities transactions tax in the United Kingdom, also described in Campbell and Froot (1993), is a tax on the transfer of financial instruments from one owner to another. The duty applies to transactions in common stock and in assets convertible to stock at a rate of 0.5 percent of the price. This tax is harder to avoid than the Swedish tax since the tax is required for a change of ownership and it applies to both foreign and domestic purchasers alike. Nevertheless, the tax is not without its own distortions, such as encouraging the use of derivatives, which are not taxed.

If transactions taxes applied to all transactions in the instruments of a country, regardless of location, investors could shift to trading in the untaxed assets of other countries. In most cases, foreign markets could create assets that would mimic the outcome of domestic assets. Domestic investors could then purchase these instruments and avoid the tax. This suggests that the application of the tax should extend to the transactions of domestic taxpayers subject to tax, regardless of location. Nevertheless, this would pose the same difficulties that tax administrations currently face in trying to monitor the offshore activities of domestic taxpayers.

## IV. Taxes on International Transactions and Related Taxes 1/

### 1. The Tobin tax

Tobin proposed the idea of imposing a tax on all transactions involving the currency conversions (see Tobin, 1978) (although the idea can be traced to earlier proposals by Keynes). His argument for the tax was that it would reduce speculative short-term capital mobility. Tobin envisaged an international tax, levied at a uniform rate, on all spot transactions in domestic security and foreign exchange markets involving currency conversions. To prevent speculators from disguising financial transactions as trade in goods and services, the tax would also have to apply to all foreign trade involving currency conversions. For its success, the Tobin tax would require international policy coordination in three areas: tax policy proper (concerning the base and rates); tax administration; and the sharing of the proceeds of the tax.

From a tax policy perspective, there are a number of analytical shortcomings to the Tobin tax proposal (see Garber and Taylor, 1995). As discussed earlier, as with any excise tax, a tax on foreign exchange transactions distorts the market to which it applies, with uncertain efficiency and distributional effects. This would be particularly true if the tax were imposed on payments for goods and services. In addition, there is an uncertain relationship between short-term capital flows and market inefficiency and volatility, the design of the tax would be difficult, and the tax might induce capital markets to use vehicle currencies.

The low tax rate generally envisaged under the Tobin tax would do little to reduce speculation in foreign exchange markets when there is a large expected change in exchange rates. Under circumstances of stable foreign exchange values, financial market participants are likely to oppose even small tax rates in view of the narrow spreads that characterize foreign exchange market transactions.

In terms of the effective implementation of the tax, the mobility of financial transactions would make the tax easy to avoid unless the tax were internationally agreed upon and administered by each government for taxable transactions that were carried out in its own jurisdiction. The effectiveness of the tax would be greatly reduced if only a few governments with major financial markets decided against its implementation. 2/ The rules for applying the tax would have to be established by an international

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1/ This section is drawn in part from Spahn (1995).

2/ This is recognized by Tobin. In a recent paper (see Eichengreen, Tobin, and Wyplosz, 1995), they noted that "a transaction tax on purchases and sales of foreign exchange would have to be universal and uniform; it would have to apply to all jurisdictions, and the rate would have to be equalized across markets. Were it imposed unilaterally by one country, that country's forex markets would simply move offshore" (p. 165).

organization or an intergovernmental commission. It has proven difficult to get countries to agree upon uniform taxation in other areas of taxation, even by relatively homogeneous groups of countries, such as the European Union.

The administration of the Tobin tax would have to employ the existing apparatus of foreign currency markets. Most transactions take place in a small number of countries, including the United States, the United Kingdom, Japan, Singapore, Switzerland, Hong Kong, and Germany. Nevertheless, the tax would entail significant administrative costs in developing methods for the collection, monitoring, and enforcement of the tax.

The disposal of the proceeds from the tax would have to be worked out by international agreement. Assigning the proceeds from the Tobin tax could be expected to be politically controversial. Some have argued for their assignment to an international organization, such as the International Monetary Fund, given the difficulty of determining an appropriate assignment of revenue. Some advocates of the Tobin tax have argued that the proceeds should be used to finance programs of world-wide importance, such as research in health, the protection of the environment and habitat, social policy, etc. However, another approach would be to return the revenues to national governments, perhaps on the basis of country of origin of the tax revenues. This would favor countries with important financial centers. Alternatively, the tax proceeds could be redistributed to national governments on the basis of some other criteria.

2. Variants of the Tobin tax

As originally conceived, the Tobin tax would appear impractical. However, it is not necessary to conceive of taxes to influence capital flows on such a grand scale. Individual countries could impose various measures on a unilateral basis, as many have done with domestic securities transactions taxes and taxes on currency conversions. These measures may take different forms, including explicit and implicit taxes.

One approach would be a tax on capital outflows or inflows. A tax on capital outflows could take the form of a levy on purchases by residents of foreign investments. A tax on capital inflows could take the form of a levy on purchases by foreigners of domestic investments. Even nondiscriminatory forms of domestic securities transactions taxes would still tend to reduce capital inflows. Capital outflow taxes were used, for instance, by the United States during the 1960s. The tax was ultimately repealed. The United States' interest equalization tax (IET) was imposed in 1964 on capital outflows, in a period of growing pressure on the United States' balance of payments. The tax took the form of an ad valorem levy on purchases by residents of foreign debt and equity, sold by foreigners. The tax was highly vulnerable to tax avoidance schemes through related party transactions and other means. Overall, the IET appears to have affected the composition of the United States' capital outflows but not the overall level. In general, these measures distort capital markets and are ultimately unable to contain exchange rate pressures. Furthermore, they

have proven unsuccessful in coping with underlying structural economic problems over the long term, and they impair the free movement of capital.

Another approach would be to levy a tax on the domestic stock of foreign assets, as opposed to transactions in assets or currencies. Such a tax would encourage investors to hold domestic assets. Several countries have employed this type of tax in the past (e.g., Germany, Switzerland). However, countries rarely employ discriminatory taxation and such taxation might be inconsistent with international tax treaties and other international agreements.

Another alternative would be a capital gains tax that would apply higher rates to short-term capital gains, as is typical in many income tax laws. However, such taxes are distorting, leading to the lock-in effect, and create incentives for investors to make short-term gains appear as long-term gains, particularly if the tax rate differential is large.

Other variants of the Tobin tax could take the form of monetary policy measures. One approach would work similarly to the mechanism used for exchange rate stabilization in the European Monetary System. A tax would apply to currency conversions that occur when the effective exchange rate moves beyond some band. The tax could also be applied to the difference between the band and the effective rate (see Spahn, 1995).

Another approach would be to require banks to deposit a sum related to the foreign currency transaction, interest free, with the central bank for a period of time, thereby effectively raising the cost of these foreign currency transactions (see Eichengreen and Wyplosz, 1993). This scheme is being employed in Chile, where the Central Bank has introduced a reserve requirement on all new foreign loans. Enterprises that receive foreign loans must deposit 30 percent of the loan, interest free, in the Central Bank. This reserve requirement operates de facto like a tax on foreign loans since creditors have to pay interest on the full amount of the foreign credit but can use only part of it. This "implicit tax" allows the Central Bank to set an internal interest rate above the one implied by international interest rate arbitrage.

## V. Conclusion

Financial transactions taxes have attracted considerable interest in recent years as a possible tool to influence the behavior of financial markets and, thereby, strengthen the ability of governments for macroeconomic management. This paper suggests that these taxes would be unlikely to produce the desired effects, would be difficult to design and implement, and would be politically contentious. The main drawback is that it is unclear that the possible advantages in terms of reducing some short-term speculative trading would outweigh the possible disadvantages in terms of impairing the efficiency of financial markets. In addition, from an administrative perspective, without a broad international consensus and application, these taxes are likely to be easily avoided.

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