



Chapter 1: Motivation

What is the purpose of a tax on foreign exchange transactions?

The proposal of a tax on foreign exchange transactions goes back to Tobin (1972).¹ It has repeatedly been discussed, but realization is still pending.² The discussion of the Tobin tax is however motivated by extremely different objectives. The more important ones are the following:

- ▶ The reduction of exchange-rate volatility through „throwing sand into the gears“ (*Tobin*) of world financial markets. This includes two sub-elements³:
 - ✓ A greater reorientation onto economic fundamentals, and
 - ✓ the freedom of central banks from being compelled to intervene in foreign exchange markets in order to stabilize their currency.
- ▶ Fiscal motives. These may be divided into two:
 - ✓ The mere exploitation of new revenue sources, and
 - ✓ an indirect approach to taxing globalized capital income in view of difficulties to tax them under a national income tax.
- ▶ The redistribution of resources, in particular among the North and the South, as well as the symbolic association of the tax with principles of social justice.
- ▶ Expectations of controlling or altering the process of globalization through constraints imposed onto the international financial system.

¹ Tobin presented his proposal initially in 1972 in his Janeway Lecture at the University of Princeton; it was published in 1974 as *The New Economics One Decade Older*, pp. 88-92. Tobin has repeated his proposal several times such as in Tobin (1978, 1984, 1991, 1996) and Eichengreen, Tobin, and Wyplosz (1995). In recent discussions with the author, Tobin has retained his proposal although he distances himself from groups that usurp his concept as a mean to combat globalization.

² However the French Parliament has enacted a Tobin tax in 2001 (Loi de finances pour 2002 - n° 3262, Art. 986. I), though it hinges on all other member states of the European Union adopting such a tax.

³ Tobin (1996, pp. xii-xiii)

One cannot expect that only one policy instrument—such as the Tobin tax—could realize all these objectives at the same time. First it is to be discussed, which objectives are at all realistic, and in which form a tax on foreign exchange transactions could achieve their realization.

► Stabilization of exchange rates.

The reduction of exchange rate volatility was Tobin's original intention of the tax. He argued before the background of a collapsing fixed-exchange-rate regime (Bretton Woods) that had repeatedly led to speculations against the US dollar. At the time the dollar was the almost exclusive world currency. There were only three motives to exchange dollars as the international mean of payment against national currencies, two of them „honorable“ (for financing exports/imports of goods and services, and of direct investment) and one questionable: for speculation.

The idea to reduce speculation in financial markets through taxation goes back to Keynes (1936). Keynes compared speculative activities to casino operations and argued that "...casinos should, in the public interest, be inaccessible and expensive" (p. 159). Tobin transposes this idea onto foreign exchange markets where he wants to throw "sand in the wheels" in the form of financial transactions taxes. More specifically Tobin suggests an international and multilateral tax on all spot transactions from one currency into another, which is proportional to the size of the transaction (Tobin 1978, p. 490). Initially he thought that a uniform tax rate of one percent would be appropriate, but more recently he changed his proposal by reducing the rate to about 0.25 to 0.1 percent (Tobin 1996, p. xvii).

The tax would be due every time a currency is exchanged against an-

other. This increases the tax burden on frequent short-term currency trading compared to longer-term investments in foreign currencies. According to Tobin this would reduce an erratic volatility of the exchange rate because traders would again be forced to focus on fundamental data instead of being seduced by transient market sentiments (Tobin (1991), p. 16). The idea is to limit short-term capital movements without hindering international trade in goods and services, and direct investments.

Table 1:
Foreign interest (in percent) required to match a domestic investment with a 5-percent return (for different tax rates)

Holding period	Required foreign interest rate in percent	
	0.5 pc	0.1 pc
Tax rate	0.5 pc	0.1 pc
One day	541.3	50.7
Three days	92.6	18.5
One week	37.0	10.7
One month	12.1	6.4
Three months	7.7	5.5
One year	6.1	5.2
Five years	5.6	5.1

The main advantage of the tax is indeed that it can target short-term currency transactions very effectively. The differential impact of the tax on short- and long-term transactions can be expressed arithmetically and is shown in Appendix 2. The formula allows calculating the interest rate on foreign investments required to match a domestic investment in spite of the tax. For instance, if the interest rate is 5 percent for a domestic investment and the tax rate on currency transactions is 0.5 percent (0.1 percent), the foreign interest rates required for ef-

fective arbitrage between two currency areas for different holding periods is exhibited in Table 1.

It is clearly shown that the required foreign interest rate must be the higher, the shorter the holding period of the foreign investment becomes. This is the essence of Tobin's argument: the tax would encumber short-term speculative transactions more heavily than longer-term foreign investment that would essentially be determined by fundamental data.

Ideally financial transactions associated with direct foreign investments and the trade of goods and services would be exonerated from the tax.⁴ However this requires substantial administrative "red tape", which would certainly favor evasive practices and avoidance strategies, especially in developing countries, whereby speculative financial transactions would be declared to represent the financial corollary of real economic transactions.⁵ This is why Tobin accepts the tax to apply to *all* financial transactions without any discretion as a second best solution.

Tobin's argumentation has a number of weaknesses, which I have discussed more extensively elsewhere (Spahn 1995, in particular Chapter 5 „The four dilemmas of the Tobin tax“). The main problems are the following:

- ▶ International financial markets have remarkably changed since the end of the Bretton-Woods sys-

⁴ In fact the French parliament took provisions to exonerate such transactions. However it ignores or underestimates (in spite of earlier negative experiences with capital controls) the administrative intricacies of such exemptions and the potential for evasion strategies.

⁵ Especially in developing and emerging economies the distinction between financial transactions of dissimilar kinds is extremely difficult to make. Insistence on such a distinction would only encourage corruption, as official documentation is often cheap to obtain.

tem. Today the predominant part of currency transactions consists of liquidity trading among financial institutions. This serves primarily for hedging against exchange-rate risks, which is essentially stabilizing. It is extremely rare that liquidity is also used for speculative purposes.⁶ A tax on currency transactions would primarily hurt liquidity trading and thus jeopardize the functioning of the world financial system.

- ▶ A comparison of net interest rates between currency areas—as shown in Table 1—does not fully describe the impact of taxation on speculation. Speculators act with a very short-term perspective. For instance, if an investor expects a depreciation of only 5 percent in a discernible short period (say, a week or a month), he or she will not refrain from speculating if a tax of 0.1 or 0.5 percent is levied. As the foreign-exchange crises of the 1990s in Latin America, in South-East Asia, in transition countries and within the European Monetary System have demonstrated, the repercussions of speculation can cause exchange-rate changes that go well beyond the 5 percent mark.⁷

It is for these and other considerations⁸ that I have come to the conclu-

⁶ Even the term „speculation“ is vague and often abused ideologically. I use the term in a technical, intentionally value-free, connotation. Some reflections on „speculation“ are found in Appendix 3.

⁷ Some examples of currency crises with a dramatic impact on the exchange rate can be found in Appendix 3.

⁸ These „other considerations“ include doubts that a reduction of liquidity would contribute to stabilizing exchange rates. Theory and practice commend that less liquid markets are exposed to higher and more abrupt price volatility than more liquid markets. I shall come back to this point later in this Chapter when discussing systemic aspects.

sion that a tax on foreign exchange transactions, as originally conceived by Tobin, is an inappropriate instrument for mitigating exchange-rate volatility. The higher the tax rate, the more aggravating the repercussions on the world financial system will become; the smaller the rate, the less suitable it will be to deter speculation.

However this does not imply the conclusion that the objective of stabilizing exchange rates cannot be achieved through a tax on foreign exchange transactions. Such a tax must only be designed in a different way as proposed by Tobin. Theoretical considerations by Tornell (1988, 1990) have encouraged me to ponder on ways to use taxation as a mean to achieve exchange rate stabilization. It led me to a “two-tier” tax, whereby a proper Tobin tax (albeit with a very small tax rate) is combined with an exchange-rate normalization duty (ERND). The former is apposite primarily as an income-generating device while the latter takes up the function of stabilizing exchange rates. The proposal is further explained in Chapter 2.

► **The exploitation of new revenue sources.** Fiscal aspects are not in the forefront of Tobin’s proposal.⁹ However he also realizes that a tax on foreign exchange transactions could raise substantial revenue. This results from the enormous amounts of foreign exchange transactions that have evolved over the last decades.

According to a tri-annual survey on the developments of foreign exchange markets published by the Bank for International Settlement (BIS) in Basel, the following transaction volumes are obtained as depicted in Table 2¹⁰:

⁹ „Raising revenue has never been my main motivation.“ (Tobin 1996, p. xv).

¹⁰ See BIS, Quarterly Review, December 2001, p. 39.

Table 2:
Development of transaction volumes
on international foreign exchange markets

Year (April)	Daily average in bill. US Dollars at constant \$-rates (of April 2001)	In- crease in percent
1989	570	–
1992	750	31.6
1995	990	32.0
1998	1,400	41.4
2001	1,210	–13.6

Purely arithmetically, the multiplication of such transaction volumes with even smallest tax rates produces significant amounts of revenue. For instance, with roughly 250 business days per year, a tax base of \$300 trillion could be calculated for 2001, and a tax rate of only 0.1 percent would then produce a yearly revenue of about \$300 billion.¹¹

I consider such calculations dubious for several reasons.

- First they do not account for the structure of the market and its possible alterations that could result from introducing the tax.
- Furthermore, total transaction volumes contain distinctive financial instruments: spot transactions and outright forwards, foreign exchange swaps, options and fu-

¹¹ The French parliament, in its legislation of last year, proceeded in a similar fashion. It based its estimate on the daily transaction volume of its financial center Paris (56.5 bill. euros), accounting for a yearly deduction of 1,017.75 bill. euros (or 4.1 bill. per day), which corresponds to transactions of the trade balance and direct foreign investment that are exonerated by law, and thus calculated a tax base of about 50 bill. euros per day. At the maximum rate provided by the law of 0.1 percent, this was expected to generate revenue of 50 million euros per day (or 12.5 bill. per year).

tures. It is unclear in which way such different instruments would bear on such revenue estimates.

- ▶ Moreover the number and structure of participants in foreign exchange markets has changed dramatically in recent years. This has had a lasting impact on the tax base.¹² These developments will be discussed further in Chapter 3.
- ▶ In addition, the development of foreign exchange markets is characterized by dramatic technological changes, for instance the introduction and further development of automated brokerage systems, net clearing and settlement (e.g., „front-loaded“ and „continuous settlement“). Such developments had a significant impact on the structure of markets and they are likely to prevail in the future. Their repercussion on the base of a tax on foreign exchange transactions deserves further scrutiny (see also Chapter 3).
- ▶ Finally—and not the least—a tax on foreign exchange transactions (as any other tax) will entail evasive strategies, which would necessarily curtail the tax base. These reactions are essentially of four types:

1. *The simple refraining from executing a taxable transaction.* This entails an often-overlooked deadweight loss, which can also find its expression in higher economic risks. Such effects may possibly correspond to the objectives of the critics of globalization, but it could have fatal consequences for the stability of international financial

markets and the world economy.¹³

2. *Legal avoidance by using non-taxable money substitutes and financial innovations.* This includes a possible retreat into a single world currency for handling liquidity trading (the US dollar), with corresponding differential compensations via financial derivatives.

3. *An increase in the effectiveness of currency trading.* This is achieved through net clearing systems, the institutional consolidation of the financial sector, the outsourcing of financial transactions into non-financial institutions etc.

4. *The legal and illegal relocation of financial operations into tax havens.*

Further considerations as to possible evasive strategies under a tax on foreign exchange transactions can be found in Chapter 4.

Apart from the immediate goal of achieving fiscal revenue with a tax on foreign exchange transactions, the tax is occasionally also considered to work as a presumptive tax on capital income. The argument is that under globalization it will become more and more difficult to capture capital income from international investments with a national income tax. Such income frequently escapes the income tax by dislocating into tax havens whose governments are known to be uncooperative on source taxation. To the extent that the Tobin tax would reduce the net return on foreign capital investments, a sort of presumptive income tax would become feasible, whereby the transactions tax would generate some form of compensation, albeit crude.

¹² For instance, the reduction in the volume of transactions in 2001, compared to 1998, is chiefly explained by changes in the market structure (Galati 2001).

¹³ This reaction also limits the scope for the rate of the Tobin tax. I shall come back to this in Chapter 3.

► Aspects of social justice and redistribution.

The tax on currency transactions possesses a politically strong symbolic force, which was hardly recognized by Tobin. This is why it is potentially acclaimed both by the public and by politicians. Behind this symbolism there are rudimentary prejudices against “easily earned money” through financial trading as opposed to “hard-earned money” through labor. Adding the notion of „speculation“ as a shortcut for „fraud“ plays this antagonism further up.

The political muscle of the Tobin tax is strengthened even more by the fact that foreign exchange markets are (rightly so) considered to represent a colossal exclusive undertaking of industrialized countries. The currencies of the OECD countries are involved in 89 percent of all transactions. The remainder falls almost exclusively to emerging economies (including the currencies of Hong Kong and of Singapore). The currencies of developing countries play practically no role. This is why a tax on foreign exchange transactions can be seen to burden mainly the richer industrialized nations. Its revenue could be reserved for foreign aid to developing countries implying a more equitable distribution of opportunities within a globalizing world economy.

Thus the Tobin tax is hailed as a “righteous tax” in a double sense:

- On the one hand as a compensation between the financial industry, often depicted to be non-productive (Karl Marx), and the producing sectors of the economy *within* industrialized countries; and
- On the other hand as compensation between developed and less-developed economies (in short: between North and South), whereby the degree of economic development is regarded to be

tied, not without reason, to the access to international exchange markets.

Whenever distributional aspects are in the game, the potential costs of redistribution have to be expressed in terms of efficiency losses. If the introduction of a Tobin tax would result, for instance, in heavy costs of foreign exchange trading and international capital markets, this would undoubtedly have a negative impact on real economic variables such as investment, jobs, and incomes. The explanation of such complex relationships is not easy however, and the inter-linkages are more difficult to convey than simplistic clichés of social justice, in particular as the financing of such redistribution programs is expected to be carried by others (the “speculators”). Moreover the liberalization of international capital markets is often seen to deprive the Third World anyway.

But even though there would be no negative impact on the world economy, the achievement of the goals of international justice through a Tobin tax with corresponding transfers is not necessarily assured:

- On the one hand it is possible—and even probable—that the financial industry would shift the tax on currency transactions onto producers and consumers, and not carry it itself¹⁴ (see Chapter 5).
- On the other hand it is questionable whether development policy is only a question of money and can be accommodated merely by financial transfers to the Third World.

In particular this latter point would deserve a more comprehensive treatment, which is of course not within the terms of reference for this study. Nevertheless it has to be mentioned

¹⁴ This would even be intended if the Tobin tax were to serve as a presumptive income tax.

that development aid is often deflected toward military spending, ostentatious public consumption, non-sustainable or unsuitable investment projects, and even into private accounts of local oligarchies, which fails to realize the proper goals of development policies.

I consider structural reforms—within recipient and donor countries—to be basically more important for economic development and an equitable and fair distribution of opportunities than the mere extension of international financial transfers. In Third World countries this includes, for instance, the recognition of human rights, reforms of education and health policies, of public administration (“good governance”), the struggle against corruption and the dismantlement of state monopoly power and price controls that convey benefits to a small minority at the expense of the broader population. In donor countries the main problems are, for instance, the collusion with local potentates, the transfer of inappropriate technologies, or an inefficient policy of price subsidies, which renders it difficult for developing countries to overcome their dependency from primary production. To this compounds the protection of import markets—for instance for agricultural and textile products—, which is inefficient and intricate from an equity point of view.

Structural reforms in these areas are often independent from financial aspects. Conversely, specific financing models may contribute to preserve inefficient and unfair arrangements. Where this is the case, development aid would even jeopardize the realization of the very objectives of development policy.

► Redistribution of national wealth.

An important aspect of regional justice in a globalizing world has to be emphasized in the context of a proposal

for a tax on currency transactions however:

Exchange rate volatility is not only a problem *per se*, it also affects the distribution of wealth between industrialized and developing economies, and it can thus thwart an aid policy that relies essentially on budget policies. This point is often ignored because development policy all too often looks toward financial flows, and hardly ever toward stocks and their changes in valuation.¹⁵

Tobin himself has repeatedly argued that the reduction of exchange rate volatility aims not only at the reorientation toward fundamental flows (such as foreign trade, direct investments), but also at the independence of the central banks from the vagaries of foreign exchange markets. In the absence of such independence, a devaluation of its currency will compel central banks to either offer high interest rates on overnight deposits (e.g., the strategy of the Swedish National Bank at the beginning of the 1990s), or to sacrifice foreign exchange reserves in order to take out their own currencies from the market (or both).

This indicates one of the most important asymmetries between industrialized and developing countries in the era of globalization: While the leading industrialized economies were able to ascertain the independence of their central banks from exchange rate volatility (obvious in the statutes of the ECB, but also apparent during phases of „benign neglect“ of American monetary policy), the international consensus of economic actors and politicians expects from developing and emerg-

¹⁵ This statement has to be taken *cum grano salis* however. Responsible politicians will recognize both aspects and have acted accordingly—for instance through debt relief for the highly indebted poor countries (HIPC). Nevertheless I have reasons to stress that point again—in view of more recent discussions with politicians in the realm of development policy.

ing economies to defend, in the case of speculation, their currencies by surrendering their arduously conquered foreign exchange reserves. Once these reserve have been exhausted, the countries are all too often pushed into debt in foreign currencies.¹⁶

Whenever the central bank of a country has to surrender foreign exchange that does not correspond to real capital formation, this is tantamount to an international transfer of net wealth, whose magnitude can easily dwarf the flow of development aid. Arduously earned wealth can fade away within a short period of time due to currency speculation. A tax on foreign exchange transactions could not only protect the freedom to act of these countries' central banks; it could also generate some additional income in the case of speculative attacks.

I think it is important to stress in particular the connectivity between the potential loss of net wealth of developing countries, and budgeted development aid. Stable exchange rates thus become a *precondition for effective development policies*, which ought not be overlooked.

As to aspects of *distributional justice* it must at last be emphasized that financing development may not be the only objective of a tax on foreign exchange transactions. In this context other global policy goals have been mentioned that could also be addressed by using the proceeds from a Tobin tax. The tax yield could equally be spent for achieving general policy objectives (such as the war against terrorism, the trafficking of humans, arms, and drugs), ecological goals (such as the protection of tropical for-

ests, global warming, the loss of biodiversity), addressing global health problems (HIV/AIDS), malaria), research (to address basic questions of global significance), and other goals of overarching interest ("global public goods").

The use of the attainable proceeds from a Tobin tax is ultimately a political question that cannot be answered in this study. However it is important to discuss who (i.e. which institutions, national or supranational) would collect the Tobin tax eventually, because this will also limit the possibilities of its use (see Chapter 3).

► **Systemic transformation.** The tax on currency transactions is finally called for by political groupings whose aims are not always lucid, but are undoubtedly motivated by the desire to transform "the system". This is comprehensible to the point of controlling the process of globalization more generally (its "humanization"). Why should we forsake to impose onto international financial markets some rules as they have been adopted for long in the realm of national politics for banks, stock exchanges and other financial institutions? In this context, the Tobin tax can yet be only *one* element of a more comprehensive regulatory concept for global financial markets. It would be wrong to expect the tax to solve all pending problems of the global financial architecture at once.

Systemic aspects of globalization are indeed most prominent in international financial markets. It is there that national boundaries have come to play almost no role. Financial information is available to all market participants simultaneously, in real time, and ubiquitously. Prices of financial products have melted down under extreme competition that leaves minute residual markups in the order of basis points (hundredths of a percent). If

¹⁶ The recent experiences of Argentina with its fixed-exchange rate regime—particularly vulnerable to speculation (see Appendix 3)—render it obvious that the orthodoxy is prepared to push a whole economy into insolvency.

this model of global financial markets is transposed onto the markets for goods and services, in particular the labor market, it becomes understandable that an unfettered globalization is easily experienced as a threat, which would provoke political resistance.

How these concerns of citizens are to be addressed will again be a task for politicians. Scientific analysis can offer only limited assistance here. In particular distributional issues are prone to escape scientific analysis. It is however hardly contentious among economists that market forces are in a better position to unfold economic and social welfare than administrative interventions by national and supranational governments. In this vein the process of globalization is seen to be inescapable and irreversible—unless one is prepared to bear the immense cost burden that socialist countries had been willing to assume for decades. This can certainly not be expected for all nations, which implies that countries opting out from globalization must fall behind economically in relative terms.

According to my view, the yearning to turn back the wheels of history by means of a Tobin tax either comes from an ideologically-based position of structural conservatism. It deems the financial industry, once again, to be the “spearhead” of capitalism or globalization, which one hopes to domesticate by a Tobin tax. Or it is (at best) based on a misunderstanding of the functioning of such markets, and of international liquidity trading in particular.

It is interesting to note that the volume of international financial transactions has been regarded to be excessive by authors of very different political trademark. For instance Summers and Summers (1990), p. 881) expect a tax on foreign exchange transactions to eliminate „wasteful trading” and „excessive financial engineering“, which

would lead to a more efficient allocation of resources.¹⁷

Others start from the intuitive—but misleading—equation “commodity = money = commodity” of Marx’s theory—namely a one-to-one relationship between transactions of goods and money. They point to the fact that the volume of trading in international currency markets has reached a multiple of the value of foreign trade and foreign direct investment, and has lost any direct relationship with transactions of the real economy.¹⁸

Such argumentation is misleading because it pays no heed to the nature of liquidity. According to my view a request to limit the volume of financial transactions to the financial equivalent of activities in the real economy is tantamount to asking for a reduction of oxygen in the air to the bare minimum necessary for life.

Liquidity is based on the fact that so-called “market makers” are willing to set prices everywhere at any time for typically large sums of foreign currency, and to carry out conforming transactions. In a similar way as we would normally not think about the availability of oxygen in the air, liquidity thus creates freedom of action for exporters, importers, and direct inves-

¹⁷ Also Tobin mentions that “vast resources of intelligence and enterprise are wasted in financial speculation, essentially in playing zero-sum games” (Tobin 1991, p. 18), which reflects unawareness as to the character of liquidity trading.

¹⁸ As an example the Intergroup „Capital Tax, Fiscal Systems and Globalisation“ of the European Parliament notes that „as a means of comparison, the total yearly exchange of goods and services is evaluated at 4,500 billion dollars, equivalent to less than a week on the currency market. Today, most of the transactions on the currency market have no link with exchange of goods and services or investment *and are purely speculative*“ (Declaration in preparation of the International Conference „Financing for Development“ in Monterrey; emphasis added).

tors.

Liquidity does not only trim down price and settlement risks, and it reduces the costs of hedging; it also prevents destabilizing insolvencies.

This implies however that the market maker is able to close his/her open position in a foreign currency immediately in order to eliminate risks and to remain solvent. Open foreign exchange positions are thus handed on like "hot potatoes" until they finally reach a market participant who is willing to hold a corresponding counterposition. In this way *one* transaction initiated in the real economy can trigger *a whole chain* of subsequent financial transactions. The demand to limit financial transactions to the "necessary scale" overlooks that this scale cannot be based on the value of economic transactions.

It is unquestionable that a Tobin tax would reduce the volume of foreign exchange transactions. The disadvantage is however that the tax cannot distinguish between liquidity trading and speculation. It would particularly hit the stabilizing liquidity trade between wholesalers. This would lead to "thinner" markets with less liquidity. Stabilizing arbitrageurs would withdraw from currency trading and only resume their activities if the actual exchange rate deviates from its "intrinsic" value (respectively, its value assumed to be realistic) by more than the tax rate.¹⁹ This would increase the volatility of exchange rates because the price-discovery process will be interrupted and prices can no longer reflect all information available on the market. Prices will then adjust abruptly whenever the deviation from a presumed equilibrium rate has become too great—as gradually accruing geo-

¹⁹ "With the tax in place, arbitrage investors would wait for larger price discrepancies before entering the market" (Kiefer (1990), p. 891).

logical tensions will be discharged in an earthquake. The introduction of a Tobin tax could even provoke a severe liquidity shock at a global scale if it is effected thoughtlessly and disregards the structure of markets.²⁰

Some prominent authors have argued however that a financial transactions tax with a very small rate would affect liquidity trading only negligibly but eliminate a behavior that is characterized as destabilizing "noise trading" (Summers and Summers 1990). This behavior is described in a new brand of the financial literature "that questions more generally the efficiency of financial markets".²¹ Noise traders act, unlike informed "rational" traders, on the basis of misinformation such as technical investment analyses (charting techniques), or rumors. Their behavior can drive prices off their fundamental equilibrium value, which renders markets more risky and volatile (Shliefer and Summers 1990). Informed traders cannot counter these destabilizing tendencies (DeLong, Shliefer, Summers, and Waldmann 1988, Summers and Summers 1989). This is because arbitrageurs usually operate without reference to fundamental data by optimizing their decisions exclusively in view of a given price, and by realizing only a local optimum. This actual price can deviate significantly from its fundamental value and thus create "speculative bubbles". To the extent that the Tobin tax could reduce such noise trading it would contribute to stabilizing foreign

²⁰ This argues in favor of a low tax rate when introducing the tax. I even imagine starting with an algorithm for calculating the tax that contains a zero tax rate initially. This would not produce any tax revenue but allow to identify the potential tax base on a recurrent basis and to monitor its reactions to a modest increase of the rate in a heuristic fashion.

²¹ This literature "has developed the perspective that the financial markets may not be as efficient as previously thought" (Kiefer (1990), p. 889).

exchange market even at very low rates.

This thesis is important because it would resolve the apparent contradiction between exchange rate stabilization and revenue raising at low tax rates. I am however not convinced that the thesis is necessarily correct. Liquidity traders would usually not use chart techniques in making their decisions, although they are of course not immune against exploiting rumors. Chartists are mainly found among the customers of foreign exchange traders outside liquidity trading (for instance institutional investors such as investment funds or hedge funds). Their potentially speculative actions are prone to affect the exchange rate more heavily than the more neutral behavior of arbitrageurs. But the presence of the latter group is much more pronounced than the former. It means that the tax would still affect liquidity operations more heavily than noise trading.

As to the exploitation of rumors and its effect on the exchange rate, it is questionable whether a Tobin tax could counter the destabilizing effects that this may trigger. In this respect it is true what has been said before: the tax is ineffective whenever the expected variation of the exchange rate is higher than the tax rate even by a small amount. The worst would be if the tax would reduce noise trading only partially or not at all, but lessen or even eliminate stabilizing liquidity operations. This must lead to greater volatility in world financial markets.²²

Systemic objectives will not be considered in this study. On the contrary I believe that developments in world financial markets have to be appraised *positively*. It is all the more important to control systemic effects in order to

avoid a negative impact of a Tobin tax on the functioning of world financial markets.

► **Summary.** Taxes on currency transactions pursue very different objectives. The more important ones relate to stabilizing exchange rates, producing fiscal revenue, and redistributing resources between the financial and producing industries, and between countries (in particular between North and South). The tax is also expected to aim at systemic changes that are directed against the process of globalization.

Systemic changes are not considered in this report. On the contrary: the proposals for a tax on foreign exchange transactions are subject to avoiding systemic effects as much as possible.

Distributional objectives are also not pursued in this study because they remain the privilege of politicians.

The centerpiece of the study on the feasibility of a tax on foreign exchange transactions is formed by the two objectives *stabilization of exchange rates* and *fiscal revenues*.

²² Moreover the entailing contraction of the tax base is hardly in the interest of those who expect revenue from the tax.