



## Comment on ‘Some Evidence that a Tobin Tax on Foreign Exchange Transactions may Increase Volatility’

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Global turnover in foreign exchange markets averaged \$1.2 trillion per day according to the most recent estimates available from the Bank for International Settlements.<sup>1</sup> Yet, cross-border trade of goods and services accounts for less than 5 percent of the total trading. While it is difficult to get precise estimates on hedging, roughly 20 percent of total trading is aimed at hedging against future exchange rate changes. The remaining roughly 75 percent of total turnover in global foreign exchange markets is believed to be related to short or long term exchange rate speculation. The large fraction of global turnover in currency markets that is unrelated to trade or hedging has lead economists and policy markets to the conjecture that speculation is responsible for the perceived recent increase in volatility in foreign exchange markets. Several economists, most prominently Nobel Laureate Dr. James Tobin, have advocated levying a tax (a “Tobin tax”) on foreign exchange transactions to reduce volatility induced by exchange rate speculation. Recently, several European countries spearheaded by France have debated a proposed legislation to impose a tax on currency transactions.<sup>2</sup>

However, to date, there is no strong empirical evidence that an increase in transactions costs (which would be the result of a Tobin tax) would significantly dampen volatility. On the contrary, Umlauf (1993) finds that a transactions tax on stock trading, the so called “puppy-tax”, imposed in Sweden between 1984 and 1991 actually caused an *increase* in volatility and a dramatic *reduction* in home-

<sup>1</sup> Data are from April, 2001, as reported in the “Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity”, BIS, March, 2002.

<sup>2</sup> In November 2001, the National Assembly in France adopted an amendment to the 2002 Finance Law that institutes a tax on transactions on the currency markets at a rate of between 0.01% and 0.10% that will be enforced when similar laws are adopted by other countries in the European Union. This is the first piece of legislation in the world that would implement a Tobin-type tax. Belgium passed similar legislation in March, 2002, and several other European Union member countries have debated a Tobin tax. See [www.currencytax.org](http://www.currencytax.org).

market liquidity as trading volume migrated to London and New York; and Jones and Seguin (1997) find that a *reduction* in commissions (lowering of transaction costs) in the U.S., in 1975 was associated with a *reduction* in the volatility of stock returns. To these studies, we can now add Aliber, Chowdhry and Yan who find that the *decline* in transactions costs that we have observed in the foreign exchange market since the mid 1970s has been associated with a significant *decline* in volatility and an *increase* in trading volume. Thus, the empirical evidence to date does not lend support to the conjecture that a Tobin tax on foreign exchange transactions would result in less volatility in global currency markets.

While Umlauf (1993) is the only direct test of a Tobin tax so far in the literature, Aliber et al. (2003) is the first paper to provide empirical evidence to help us predict what would be the consequences of imposing a Tobin tax in the foreign exchange market. This is clearly a contribution in and of itself, particularly given the recent policy interest in the topic.

Significant time series on transactions costs in foreign exchange markets are difficult to come by. Aliber et al. (2003) therefore propose using deviations from covered interest rate parity (CIP) to estimate monthly transactions costs for the British Pound, the German Mark, the Japanese Yen, and the Swiss Franc (against the U.S. dollar) over the period 1977–1999. However, instead of using forward rates, spot rates and interest rates, the authors use futures data and Eurorates from contracts maturing at different dates. The benefit of this strategy is that futures contracts are exchange traded and it is thus possible to observe futures prices of contracts with different expiration dates “simultaneously”. Having constructed the time-series of estimated transaction costs, the authors proceed to run OLS regressions of volatility on transactions costs, controlling for lagged volatility, contemporaneous volume, and a time trend. They find that higher transactions costs are associated with higher volatility for all currencies except the Deutsche Mark. The relationship between the estimated transactions costs and liquidity is also quite strong (again with the exception of the Deutsche Mark): higher transactions costs are associated with lower trading volume (controlling for volatility and lagged volume). The authors conduct a number of additional checks, and find that the results are robust.

Thus, the empirical evidence presented by Aliber et al. (2003) convincingly shows that transactions costs have declined, while volatility has decreased and trading volume increased. The problem is how to identify the direction of causality. The authors would like to interpret their results as evidence that changes in transactions costs *cause* reductions in volatility and increases in liquidity (trading volume). However, on the face of it, it is equally plausible that the lower trading costs are a result of higher liquidity and reductions in uncertainty (volatility). Any model of market making would suggest this direction of causality. Thus, it is extremely important to deal with the inherent endogeneity in the empirical design.

The authors try to address the issue of endogeneity by postulating an ad hoc model for transactions costs. They postulate that transactions costs are increas-

ing in fundamental exchange rate volatility, which is a reasonable first step. They then simulate the model to “guesstimate” the extent of the bias that the estimated coefficients would display due to endogeneity. While this is an excellent idea, the execution is not completely satisfactory. The reason is that transactions costs should depend on both volatility and trading volume (liquidity). This could easily have been incorporated in Section 3.1, and would have made the analysis of the bias more convincing. Having said that, I believe the authors’ conclusion would still hold up, i.e., that the bias is not large enough to overturn their overall conclusion that lower transactions costs is associated with lower volatility and higher liquidity.

But, does that mean that a Tobin tax, which would increase transactions costs, will increase volatility and reduce liquidity? This is a very difficult question to answer unequivocally. Absent exogenous events that are likely to have significantly altered transactions costs in currency markets, it is in my mind impossible to prove that the causality goes from trading costs to volatility and not the other way around. Thus, I do not think that the paper by Aliber et al. (2003) shows that imposing a Tobin tax on currency trading would result in more volatility and less liquidity. On the other hand, the evidence does not show that a Tobin tax would deliver the promised results of lower volatility and increased liquidity either!

It is interesting to note that while the original purpose of the Tobin tax was to reduce volatility, the current focus in the international debate seems to be that imposing a modest world- wide Tobin tax would at least theoretically result in a tremendous amount of tax revenue that could be used, for example, to finance development. For example, a 0.1 percent tax on global foreign exchange trading would generate over \$300 billion per year in tax revenue! This amount dwarfs any current aid provided to developing countries. Thus, it is not surprising that policy makers from the developing world are advocating a currency transaction tax. Indeed, this is even behind the recent debate on a Tobin Tax in the European Community.<sup>3</sup> Given the focus on the Tobin tax as a revenue source to finance development aid, it is important to consider whether or not the promised tax revenue can feasibly be collected. I believe that the projected tax revenues are likely to be “pie in the sky” estimates for several reasons. First, the overall transactions volume in currency markets is actually declining (\$1.2 trillion/day in 2001 compared to \$1.5 trillion/day in 1998) partially as a result of the introduction of the Euro.<sup>4</sup> This trend may well continue as more countries adopt the Euro. Second, based on the experience from Sweden (Umlauf, 1993), a tax on currency trading is likely to reduce the amount of currency trading that is done in taxable accounts – traders can simply shift activity to accounts residing in tax-free jurisdictions. Hence, unless all jurisdictions with major foreign exchange market turnover adopted the tax, the actual tax revenue is likely to be much smaller than promised. Third, a large fraction of currency trading is between dealers, and many of those trades are extremely

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<sup>3</sup> See, [www.currencytax.org](http://www.currencytax.org).

<sup>4</sup> See, the “Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity”, BIS, March, 2002.

short-term in nature. Thus, if the Tobin tax is levied on settlement records, which is probably the only feasible way of collecting tax revenue in these markets, many of the currency trades will bypass the tax collectors entirely. Finally, financial markets participants are ingenious when it comes to creating new instruments to circumvent taxation. Hence, the tax legislation will have to be continuously updated to keep up with financial market innovation, and I predict that the effective tax-base is likely to diminish over time as a result.

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