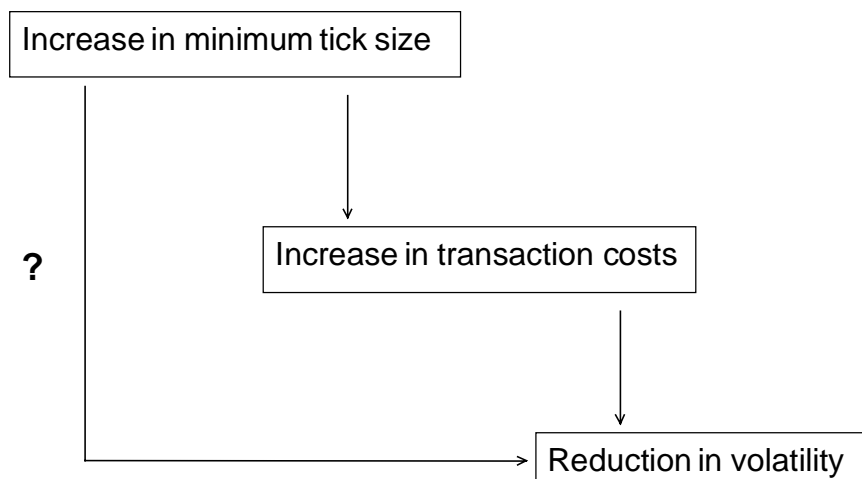


### What is the paper about?

The Tobin tax has featured prominently in the discussions on the future of the international financial system in recent years. Proponents of the tax cite a variety of reasons for why we should tax international financial transactions. These range from discouraging ‘bad’ short term capital flows to generating income for development. Opponents of the Tobin tax – including myself, I have to admit - tend to argue that such a tax can easily be circumvented and would therefore be ineffective. Unfortunately, people on neither side of the debate have much to say what a Tobin tax could actually achieve if it were properly implemented. It is therefore welcome that Harald has produced a paper that sheds some light on the fundamental question of whether a Tobin tax would really reduce exchange rate volatility. Since it is not possible to estimate the effect of a Tobin tax directly, simply because it has never been implemented, Harald uses an institutional feature of the Paris stock exchange to test whether an exogenous increase in trading costs has any effect on price volatility. The institutional feature of the Paris stock market on which the paper is based is an increase in the minimum tick size from 10 centimes to 1 franc as the price of a share crosses the threshold of 500 francs. Let me briefly summarise the paper and then give some comments. One could sketch the argument as follows (see figure): the exogenous increase in the minimum tick size leads to higher transaction costs, which in turn affect volatility. A direct impact of minimum tick size to volatility is ruled out by assumption.



Harald finds that the rise in the minimum tick size has a considerable effect on transaction costs. It also leads to a reduction in price volatility that is statistically significant. From an economic point of view, however, the reduction in volatility looks rather modest in relation to the increase in transaction costs or the fluctuations in volatility over time. Consequently, a Tobin tax would be an expensive way of achieving only a marginal reduction in volatility.

Let me briefly comment on the link between the increase in transaction costs and volatility and then discuss the applicability to the Tobin tax.

### **Minimum tick size and price volatility**

Harald estimates the impact of changes in the minimum tick size on price volatility by regressing the absolute daily, weekly or monthly return on a dummy indicating the minimum tick size and a set of control variables:

$$|R_s - \bar{R}| = \alpha D_s + \beta X_s + \mu_s + \varepsilon_s$$

Let me first comment on the left hand side of the equation. Absolute returns are a very noisy measure of volatility. Adding up squared high-frequency returns may provide a more efficient estimators (see e.g. Andersen & Bollerslev, 1998). The additional effort involved is relatively limited since the data is already there. The use of a more efficient measure may also permit an extension to which I shall come back later. In his talk, Harald mentioned that he was working along these lines, so I am looking forward to the next version of the paper.

Let us now turn to the right hand side of the equation. Does it provide a good model for volatility? I'm not so sure. First of all, it does not permit for volatility persistence, which seems to be an important characteristic of financial time series. Secondly, the minimum tick size may affect volatility by a channel other than transaction costs, which would correspond to the arrow on the left of the diagramme. I don't believe that this is a serious problem, but it could easily be addressed by using the fitted values for transaction costs instead of the dummy for the minimum tick size.

### **What do we learn about a Tobin tax?**

First of all, the applicability of the results to the case of a Tobin tax depends to some extent on whether or not equity and foreign exchange markets are comparable. Two aspects come to my mind in this respect. Firstly, the microstructure of the two market segments seems to be converging. Both on the Paris stock exchange as well as in the foreign exchange markets trading is anonymous and takes place on electronic systems. Whether this is relevant I don't know for sure, but I believe that the issue would merit further attention.

Secondly, are increases in transaction costs due to minimum tick requirements comparable to a transactions tax? Harald provides a thorough discussion of this issue, to which I have little to add. He argues that the main difference between the two is that the increase in trading costs due to higher minimum tick requirements accrues to the market maker, thus making it more profitable to provide liquidity. In contrast, under a Tobin tax the provision of liquidity is taxed in the same manner as the demand for liquidity. This should result in thinner markets, which may offset the volatility dampening effect of the tax. As a consequence, a Tobin tax would be even less effective than suggested by the results of the paper.

## Conclusions and extension

Before concluding, let me suggest an extension to his analysis. With a more precise measure for liquidity, one could differentiate between the effect of an increase in transaction costs in low and high volatility regimes, which may shed more light on how a Tobin tax would affect market dynamics. In particular, we could find out whether it would have any dampening effect in fast markets.

Let me conclude by saying that this was an excellent paper which could lift the standards of the debate on the Tobin tax. I wished there were more of these papers around.

Christian Upper  
Deutsche Bundesbank

## Reference

Andersen, T.G. & T. Bollerslev (1998) „Answering the Sceptics: Yes, Standard Volatility Models do Provide Accurate Forecasts“, *International Economic Review*, 39(4): 885-905