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# Bogle, Buffet, Tobin, and Queen Anne

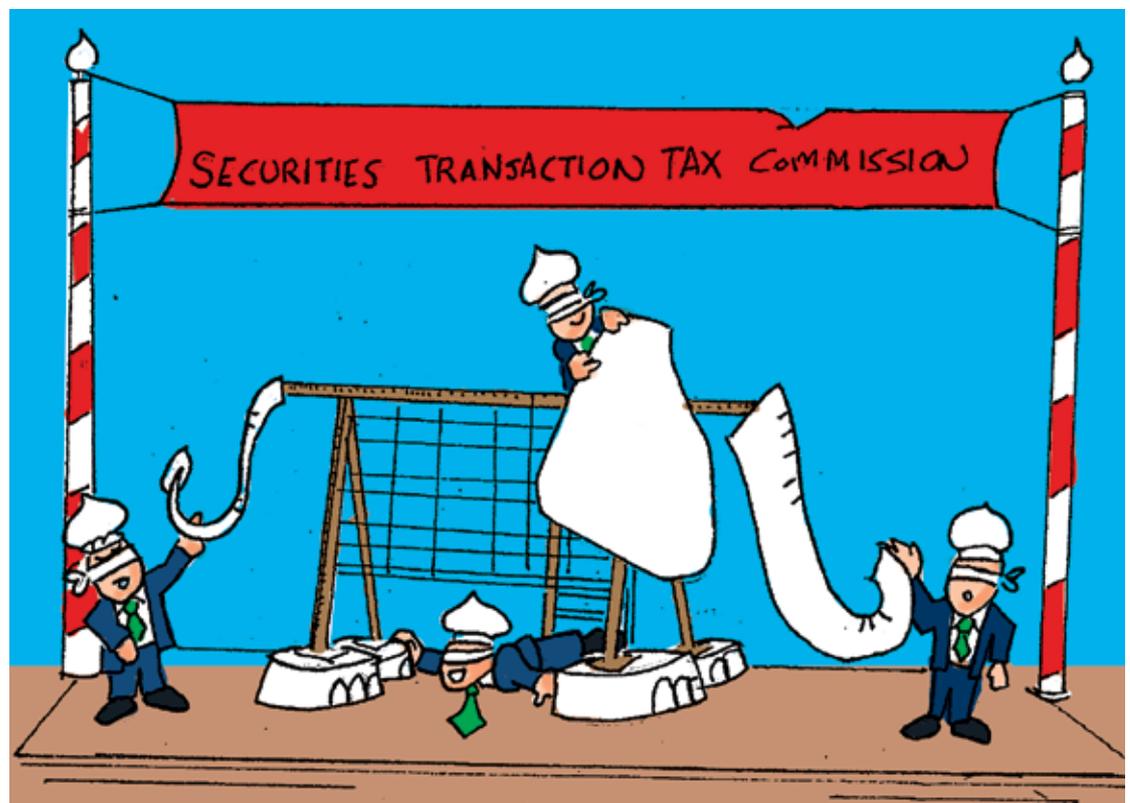
Security Transaction Tax?  
Sounds positive, in a suicidal  
way

There are far more dangerous ideas floated by political authorities than a security transaction tax, and there are far stupider ones. But nothing comes to mind immediately that is both more dangerous and more stupid. I've thought about this for a while and think we have the old blind-men-describing-an-elephant problem. If you have a limited idea of securities markets, you can imagine the tax-raising revenue and discouraging antisocial behavior. But when you take off the blindfold and look at the whole elephant, the plan is clearly exposed as absurd.

In my version of the story, there are three blind men and a blind woman, whom I choose to name Bogle, Buffet, Tobin, and Queen Anne. Some people may note resemblances to actual securities transaction tax supporters. I won't claim this is unintentional, but I am using their names only to represent general species of arguments. Each of the real individuals (except Queen Anne) holds detailed and nuanced views, and has written on them. If you want to know what they think, read them. This essay is about what I think.

## History of security transaction taxes

Security transaction taxes appear to have originated in the Netherlands. There is a story, possibly true, that the first one resulted from a



*Whatever it was, they were set on painting it white*

everyone and easy to collect. Some bright soul suggested that legal documents be required to have a government stamp (in the sense of an impression made on the document rather than a postage stamp, which would not be invented for another 200 years).

The tax is self-enforcing, because documents without stamps are not legally binding. It taxes the prosperous men of business, leaving the poor, the traditional, and the aristocrats alone.

you can think of it as prepaying for the costs of courts and civil enforcement of contracts.

The stamp tax came to England with William of Orange, but it was during the reign of his successor, Queen Anne, that it changed its nature from the moderate, reasonable Dutch version to a prized tool of tyranny. Newspapers and pamphlets were becoming a problem as the democratic forces unleashed in the previous century were frustrated by retrenching privilege. Anne's

Stuart ancestors would have seized the offending material and tortured the authors and printers. But that didn't work out too well for them in the end. Instead, it was decided to require all newspapers, pamphlets, and advertisements to pay a stamp duty. This priced them out of the reach of most people, effectively reversing the advancement of information flow that had come with the printing press.

At this point, the stamp tax diverges from the history of securities transaction taxes. The new idea for repressing people while taking their money expanded rapidly to cover all sorts of things. The attempt to export it to American colonies provoked an enraged backlash that eventually led to the Revolutionary War. While stamps (now entirely figurative) are still a common way to collect securities transaction taxes, the two are not synonymous.

### **Modern history of security transaction taxes**

A common argument from transaction tax proponents is that taxes have been imposed in the past and did not kill financial markets. A review of the experiences, however, suggests a different lesson. Taxes either were small enough to be meaningless, or raised little revenue and caused inconvenient distortions, or were disastrous and quickly repealed. In fact, given the extensive experience with such taxes, it is proponents who should point to an experience they intend to emulate.

The UK, for example, has a stamp duty levied on securities transactions, but dealers are exempted. That makes it easy for investors to avoid by trading in derivatives. The tax raises a little revenue, drives some business overseas, inflates bank balance sheets in economically meaningless transactions (which was a big headache in 2008), and causes some mild market distortions (e.g., in exchange-traded funds). It's not a disaster, and perhaps it causes less distortion per dollar of revenue raised than other taxes. So, it doesn't prove securities transaction taxes are bad. But my point is only that the indirect effects of the tax are clearly negative.

Japan introduced a tax in 1987 that pushed transactions overseas, causing volumes to drop 80 percent in five years. The tax was repealed

in 1993. Sweden introduced a tax in 1984 that caused money market transactions to drop 20 percent, bond trading 85 percent, futures 98 percent, and options trading to disappear entirely. As a result, the tax raised less than 5 percent of projected amounts, as transactions moved to London. The tax was, however, blamed for a 10 percent stock market decline (not necessarily fairly). It was repealed in 1991 and volumes recovered over the next few years. Taiwan tried a much smaller tax, 0.05 percent, on commodity futures in 1993. Trading moved to Singapore to such an extent that when Taiwan cut the tax to 0.01 percent, it actually raised more revenue than at the higher figure.

Several other Asian countries had similar experiences. Numerous studies agree that the taxes depress security prices and trading

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volumes, increase volatility, increase bid/ask spreads, make institutional portfolios less diversified and efficient, and increase autocorrelation of returns (a measure of how much security markets trend in the short term and an indicator of market inefficiency). Not all studies find all problems in all instances, but no study found that any market got either more efficient or less volatile.

The USA, and individual states as well, have imposed security transaction taxes on several occasions, dating back to the formation of the Republic. The longest-lived example was a 1914 tax of 0.02 percent on stock sales, doubled to 0.04 percent in 1934 and repealed in 1966.<sup>1</sup> This tax was much smaller than current proposals, and it was insignificant compared to the high fixed commissions and bid/ask spreads of the time. Moreover, both the capitalization and annual turnover of the stock market were much smaller compared to gross domestic product, so the economic effects would be much less than today.

Although the tax did not kill the stock market, volatility and autocorrelation were higher and average returns were lower than they have been since the tax was repealed. The tax only raised significant revenue during the bubble market of the late 1920s (which it obviously did not prevent).

A different type of transaction tax was popular in Latin America and some Asian countries in the 1990s. Several countries levied taxes on bank deposits and withdrawals. This is closer to a retail sales tax or bank check-writing fee than a securities transaction tax, but in most cases the taxes were ineffective at raising revenue and caused painful economic distortions. The one arguable exception was Brazil, where a tax imposed in 1996 raised significant revenue without major harm to the financial system. However, this tax averaged only about one week's

interest on bank deposits and was in force during a period of dynamic growth. Even so, it was repealed in 2007.

Even in theory, it's hard to design a securities transaction tax that would be effective. It would have to be international, including offshore centers and countries like Switzerland that are unlikely to support such a tax. It would have to tax all securities and nonsecurity financing. If it's only stocks, companies will issue bonds. If you tax bonds, they'll borrow with tradable bank loans. Virtually any transaction can be structured as a swap, but if you try to tax swaps it's difficult to compute the appropriate amount, and difficult to exclude any contract involving money from the tax.

### **Queen Anne taxes**

Queen Anne (remember, not the historical Queen Anne but a fictional person sharing her name and title) thinks of the financial markets



as a place where investors put money to work, while other entities raise capital for economic projects. The process works in both directions, or it wouldn't work at all. Projects return cash flows to investors.

It's easy to identify a cash flow trade. If someone buys a security with noninvestment income, or sells a security and spends the money; or if a company issues new securities or buys them back; or a nonfinancial company enters into a derivative contract whose flows will be offset by transactions in physical assets; we have a cash flow trade. These are done for the associated cash flows, not to make a profit from trading. On the other hand, if the money for a transaction comes from another financial transaction, or goes to another financial transaction, we have a non-cash-flow trade. Of course, mixed examples are possible, such as an investor putting new money in the stock market, but still buying a stock she hopes will give her a profit above an index fund investment.

Queen Anne sees the securities transaction tax as both raising a lot of revenue and taking money from participants in financial markets. These are the two main advantages cited in the DeFazio proposal now in Congress. This is a classic stamp tax. Cash flow trades are obvious; they cannot be concealed from the government or executed in some virtual form. They are essential; markets cannot work without cash flow trades. Taxes of less than 1 percent are not likely to discourage many of these trades.

### Bogle taxes

Bogle (remember, not the real Bogle but our caricature) agrees with Queen Anne about the purpose of securities markets, but understands the need for noncash-flow transactions. Although most retail investors should be in low-cost index funds, some professionals have to trade to keep securities prices in line and provide liquidity for the cash flow investors.

Unfortunately, there are other traders in the markets: noise traders. These traders consistently lose money, causing problems for themselves and, more important, their clients. We can't identify a specific trade as a noise trade, but we do know that noise traders exist and generate huge costs.

The best documented investors are public mutual funds. The evidence is overwhelming that the average actively managed fund has negative risk-adjusted expected value versus holding an index fund. Of course, there could be positive-expected-value active funds, but proving that is difficult (and if there are, they are likely the relatively low-cost ones). It seems likely that there are noise traders among individuals, hedge funds, endowments, and pension funds as well, but these groups are more difficult to study.

Bogle likes a transaction tax to discourage these noise traders, or, failing that, to capture some of their losses for a social good. Since noise traders have much higher turnover than buy-and-hold investors, they should be much more sensitive to the tax. A level small enough to be negligible to a long-term investor in an index fund could represent a discouraging burden to a high-turnover active noise trader.

### Tobin taxes

Tobin (fictional) is less concerned with capital allocation than price discovery. This is another important function of financial markets. He has no desire to tax cash-flow traders, and no more interest in noise traders than any other negative-expected-return gamblers in society. He sees the key participants in financial markets as positive-expected-return traders, but they come in two species.

Direct information traders bring relevant economic information to the markets. They may predict the earnings of an individual company, or the prospects for European inflation, or the demand for copper in India. The markets aggregate this information and establish market-clearing prices for company stocks, European bonds, copper, and many thousands of other assets. These prices provide essential inputs to private and public decision-makers.

Unfortunately, there is another kind of positive-expected-return trader, the indirect information trader. She brings no economic information to market, she trades based on expectations of what other traders will do; she is more likely to consider the price and volume history of a security than its fundamental economic value. Since she brings no information, she cannot change

the equilibrium price, so she cannot make the economy more efficient. But she can induce prices to be more volatile than can be justified by information. She extracts profits from serious traders, reducing the amount of economic resources available to unearth and process information. Moreover, some indirect information traders may get their profits from manipulation rather than prediction. Because there are other indirect information traders, it might be possible and profitable to create a bubble or panic deliberately. These can inflict considerable economic damage.

How do we know such traders exist? There is evidence that some traders have positive expected returns. It's not as clear as the evidence of negative-expected-return traders, but it's convincing nonetheless. It's also clear that some of these traders seem to pay a lot more attention to price histories of securities and what other traders are doing than to economic events or economists. Some computer algorithms use only market data as input, no fundamental data. Moreover, prices move up and down a lot more than security cash flows.

Like Bogle, Tobin notices that the group he doesn't like trades a lot more than the groups he likes (direct-information traders and cash-flow traders). Therefore, a transaction tax could be set to a level to discourage indirect-information trading without inconveniencing respectable market participants.

### Buffet taxes

Buffet (fictional) doesn't see corporate executives and economists as the people directing the economy; that is the job of investors. The point of a transaction is to change control over physical assets, not to make short-term profits or give off a price for others to observe. The traders who matter are the direct-information traders; the others are either irrelevant or dangerous (as in "weapons of mass destruction," describing derivative transactions divorced from physical assets).

Buffet likes a securities transaction tax not to eliminate direct-information traders, but to force them to make longer-term decisions. He doesn't hate them, he hates the amount of trading they do. If they buy and sell stocks every year, they

force corporations to manage to the short run; moreover, they never develop the deep understanding of their companies that is required for sound oversight.

A securities transaction tax forces investors to take a longer view, to only buy securities they are comfortable holding for a long period of time, and to change their minds only in response to significant news.

### The whole elephant

The most obvious conclusion from the analysis above is that not all four of our blind people will be happy with the result of any tax, since they're all hoping to affect different traders. Another important point is that financial markets have all of the above functions: capital formation, capital allocation, price discovery, and oversight. There is a reason all four are bundled together. A tax that discourages one discourages all. A securities transaction tax has the potential of unraveling the market.

The first to go are the indirect information traders. One subset of them, high-frequency traders, are responsible for about half the transactions in the market at average profits on the order of a penny a share. Many other trades are between liquidity providers (including market makers). A single trade among end investors might generate a cascade of trades connecting them; all these traders together must share the bid/ask spread. Clearly, these trades have to outnumber the trades between end investors. There are also many other types of traders with indirect information strategies. Collectively, it's a reasonable guess that they account for 90 percent of transactions. A securities transaction tax an order of magnitude higher than current bid/ask spreads puts them all out of business immediately.

We know what replaces them – the old expensive market makers we spent the past 35 years eliminating, starting with abolishing fixed commissions in 1975. We got rid of them because we thought they imposed an unacceptable burden on investors, and interfered with market efficiency. Competition produced a much cheaper, better quality execution. Throwing that away not only hurts markets, it delivers truckloads of cash from Main Street to Wall Street.

This doubles the impact of the tax on the remaining 10 percent of trades; investors have higher bid/ask spreads and commission rates on top of the tax. This will affect direct-information traders and noise traders in different ways. Direct information traders are in competition with each other. If you get a piece of information, the speed with which you rush to market depends on how fast someone else might get it there first. Increased expenses encourage direct-information traders to gather larger blocks of informa-

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tion before trading, to wait for larger divergences from fundamental value before pushing prices back to the mean. This introduces more positive feedback; the longer one direct-information trader waits, the longer other direct-information traders can afford to wait. Markets become much less efficient; the current price tells you much less about the value of a security.

There is another effect with respect to direct-information traders when indirect-information traders disappear. Economists like Tobin tend to think about simple markets like auctions, where everyone brings the same type of information (such as what an object is worth to them). Simple schemes suffice to find the market clearing price in this situation. But the key to financial markets is spread traders. Traders are betting on one security versus another, or one delivery month versus another, or a stock now versus five seconds from now.

All of them bring different types of information to market. One thinks company A will do better than company B. Another thinks A and B's industry will have problems. A third likes B's country better than A's. Efficient markets encourage people to rush in with any tiny bit of relative information. It requires sophisticated indirect-

information traders to set prices based on these relative trades; a simple auction scheme will not work. No market-clearing prices are produced – they may not even exist. No equilibrium is reached; it may not exist. What efficient financial markets do is offer to buy or sell, at large size and small spreads, without requiring equilibrium. This is what allows real economic decision-makers to go about their business without waiting for all markets to clear simultaneously (which never happens). Without indirect-infor-

mation traders, not only do direct-information traders wait longer to trade, but they also need to interpret complex information of different types to make absolute bets. The most important function of financial markets, information aggregation, has been removed from the competitive and transparent market to be done behind closed doors by whoever happens to possess the information. The wisdom of crowds and survival of the fittest, two important principles in modern financial markets, are replaced by analysts.

Noise traders do not compete with each other. They don't make money, so there's nothing to compete about. Their losses from trading must give them some direct utility. Some of them may enjoy trading. Others may use the trading as a marketing edge, feeling that their mutual fund will get more investors if it trades actively. Some financial intermediaries make direct or indirect profits by churning their client's accounts.

Economic theory suggests that when you tax something that gives direct utility, people are likely to consume less of it, but pay more in total for it. That doesn't have to happen, but it's a reasonable first guess. Moreover, each tax increase can be expected to produce a smaller response. If a 0.25 percent tax doubled noise-trading costs

(remember, they already pay a high cost for trading), their trades might drop by 25 percent, so they are paying one and a half times their old total costs. If the tax rate were increased to 0.50 percent, we would not expect trading to drop to 50 percent of original levels, we would expect it to be somewhat higher than that, so the noise traders pay more than one and a half times their original total cost.

A small tax would presumably affect direct-information traders more than noise traders. One reason is that information traders are probably smarter and more alert. Another reason is that their costs are much lower, since they don't lose money on each trade, so any tax is proportionately higher to them. As we consider larger taxes, there is positive feedback for the information traders, with each increase resulting in larger reductions of trading. We expect negative feedback for noise traders, with each increase resulting in smaller reductions. So, we expect to get rid of a lot more information trading than noise trading, and the higher the tax, the more true that is.

Finally, let's consider our cash-flow traders. They will subtract the present value of transaction taxes paid from what they are willing to pay for securities in the first place. They will reduce their price even more because they are paying larger execution costs and getting worse price information. Their portfolios will be constructed less well, because they can't transact as freely and because they don't have the same quality price information to estimate correlations and volatilities. There will be a lot more execution risk as well, since they might end up buying when information traders know the security was overvalued and selling in the opposite scenario. Of course, the reverse could happen as well, but the factor adds risk, which reduces value.

### Who's happy?

Queen Anne is not. Yes, she collects some tax, but the decline in securities prices due to diminishing the value to investors costs her more in foregone capital gains taxes than she gets in securities transaction taxes. On top of that are the increased funding costs due to losses in pension funds. Moreover, since volume has fallen by more

than 90 percent, her old 0.02 percent tax was collecting as much as her new 0.25 percent tax. She wanted to punish Wall Street and instead handed it back its old goldmine. When she factors in reduced economic activity due to higher costs of capital, the financial jobs pushed overseas, and the purchase of her public corporations by foreign investors and knockdown prices, she regrets the tax.

Bogle is sorry as well. Although he reduced the amount of noise trading, the total spent on noise trading increased, so the people he wanted to help are worse off. Moreover, the decline in security prices has hurt them even more. The newly inefficient markets make index funds inadvisable, so mutual funds have to raise expense ratios to hire more fundamental analysts, as they no longer get their value information free.

Tobin notices that he's lost the efficient prices he values, since he chased out more information traders than noise traders. Without indirect information traders to absorb short-term supply-and-demand shifts, prices are far more volatile than before. Without as many direct-information traders to keep prices near fundamental value, markets can get far removed from reality.

Buffet probably loses less than the others. He can buy companies cheaper, both due to security price declines and because he can take advantage of less efficient pricing. With less competition from index funds and public mutual funds, more people will buy his stock. But what he intended to accomplish, better investor oversight, did not occur. The market is now dominated by noise traders and cash-flow traders. The few remaining direct information traders do not use their knowledge to be wise custodians of their assets, they are opportunists looking for huge mispricings to exploit.

A securities transaction tax is a bad idea that has accumulated a potent coalition of supporters. But underlying this coalition are four inconsistent views of securities markets, none of which are realistic. If we're not careful, we'll let four blind people kill the elephant.

The author thanks Michael Mendelson and Cliff Asness for their comments.

## A securities transaction tax is a bad idea that has accumulated a potent coalition of supporters

### FOOTNOTE

1. You sometimes see much higher rates reported, including by the US Congressman sponsoring a securities transaction tax bill. The issue is clouded because until 1959 the tax was imposed on the par value of the transaction, rather than the market value. This caused the effective rate to be higher on stocks that had fallen from par, lower on stocks that had risen. Also, there were state taxes that were more complicated and changed over the period (including a period of negative taxes – that is, rebates). The main point is that the tax never was a significant contributor to total transaction costs, while current proposals are for taxes 10 times the existing transaction costs.