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Financial Transactions Taxes

Parthasarathi Shome

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Abstract

This paper attempts to address both theoretical and practical considerations for a tax such as financial transactions taxes (FTT). It includes examples of FTT in the wider context, for example, on stocks and derivatives, currency transactions, and tangible property. Most of the discussion centres on financial market issues to reflect the thrust of current discussion and debate. What is found is that assumptions and commensurate analysis about how financial markets function drive the final views and outcomes over FTT. A roadblock, that a clear understanding or explanation of the range of behaviours in financial markets is incomplete and imprecise, remains. However, globally, FTT remains a commonly used tax. A cross-country comparison is provided. It reveals, however, that FTT is often used as a temporary instrument.

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Financial Transactions Taxes

Parthasarathi Shome[1]

I. Introduction

It is easy to recall that in the late 1980's to mid-1990's, there was much discussion on financial transactions taxes (FTT) in the context of minimising swings in financial markets or as a revenue source of global proportions that could be earmarked for the alleviation of poverty. That discussion was not able to reach consensus for good reasons on balance, and a tax on financial transactions failed to be implemented at the global level.

A reconsideration of FTT emerged recently in the context of enhancing stability in global financial transactions in the face of general empathy, if not agreement, that some containment of the intermittent upheavals in global financial markets was called for. And this should be achieved through FTT, or non-tax regulation, or both. The debate has gone through several phases once again. Countries have discussed and debated it domestically. At this moment, the case favouring a global FTT cannot be said to be too strong in the United States though, across the Atlantic, in the United Kingdom Prime Minister Gordon Brown did express interest recently in such a tax at a G20 meeting in St. Andrews, Scotland. Even though FTT has also been explored in multi-country Groups, it has not emerged with ostensible support.

This paper attempts to address both theoretical and practical considerations for a tax such as FTT. It includes examples of FTT in the wider context, for example, on stocks and derivatives, currency transactions, and tangible property. Most of the discussion centres on financial market issues to reflect the thrust of current discussion and debate. What is found is that assumptions and commensurate analysis about how financial markets function drive the final views and outcomes over FTT. A central roadblock, that a clear understanding or explanation of the range of behaviours in financial markets is incomplete and imprecise, remains.

In general, FTT proponents argue that technical and noise trading causes deleterious market volatility based on short term de-stabilising speculation and that FTT would contain this. And, on a global basis, its revenue productivity would be high. Further, the tax rates would need to be very small so that FTT could have only small adverse efficiency effects.

Opponents argue that FTT is inefficient since it would raise transactions costs, and reduce market liquidity. It would also depress share prices, increase capital costs, and decrease investment. If country tax rates are different, it would cause unwarranted capital flows. The final tax incidence between companies and their clients would depend on the strength of

[1] Developed from a presentation at the International Tax Dialogue (ITD) Global Conference, Beijing, October 27, 2009. My appreciation is expressed to Jon Franklin, Paul Bernd Spahn, and various ITD participants. However, all opinions expressed are mine and should not be attributed to any other individual, institution or government unless otherwise mentioned.

various responses or values of elasticities. And, if FTT were to raise significant amounts of revenue, then one cannot convincingly argue that efficiency costs would remain low.[2]

Section II focuses on the theoretical basis of FTT. It looks at issues including prices and transactions volumes in the financial sector, and focuses on its volatility. It discusses whether FTT contains volatility and addresses its revenue productivity. Section III traverses available econometric empirical evidence on the theoretical hypotheses. Given that many countries have used and continue to use FTTs, it also provides country examples of the actual use of FTT in recent times. Section IV concludes.

II. Theoretical Considerations

Keynes and the Keynesians, dormant in the 1980's to early 2000's, manifested a resurrection in the late 2000's through fiscal stimuli across developed, middle income, and developing global economic players. This was to counter the fallout from a financial crisis of pandemic proportions essentially brought on by persistent unsustainable over-consumption, and associated financial loans of the former. But another corrective aspect that Keynes (1936) had insightfully touched upon also came up for re-consideration. This is FTT. Following the Great Depression, he had opined that a "transfer tax on all transactions" would be the "most serviceable reform…to mitigate….speculation over enterprise". However, he also cautioned that "If ….investments were rendered illiquid, this might seriously impede new investment". Herein lies the perspicacity with which Keynes saw the dual aspects. We attempt to review these competing positions that appear not to have been resolved to this day.

During the late 1970's and early 1980's, international capital flows were experiencing boundless economic growth. Tobin (1978) anticipated some of the swings, indicating that they were to be expected with high growth. To contain excessive shifts of funds with negative economic effects, he suggested a tax to buttress monetary policy. The tax never took effect. Indeed, until the late 1980's, the market efficiency assumption regarding the functioning of financial markets—reflected in dividend movements—did not change significantly. In this world, any rise in transactions costs would worsen market performance. Post-mortem of the October 1987 stock market crash gave rise to an alternate view based on a mix of investors with rational expectations about return on stocks together with uninformed noise traders who invest oblivious of economic fundamentals. This view nevertheless was based on the premise that the latter could complement the former by taking open market positions. Therefore FTT would hamper this beneficial activity. [3]

Further developments in global markets have complicated real life situations considerably. These situations have been examined and re-examined in various studies that have found the two types of behaviour competing rather than complementary. Though there are no precisely

[2] Of course it could be argued that the sheer size of forex transactions would produce a lot of revenue even with a tiny tax with minimal distortions. As is illustrated below, this argument continues.

[3] No doubt any tax would raise costs; but the argument later metamorphosed not so much between different taxes; but, rather, between tax and non-tax alternatives.

clear outcomes from a toss-up of these studies, it is not impossible to identify the slant that the majority of analytical examinations have taken. With these antecedents, in this section we consider various conceptual or theoretical perspectives of FTT from the recent literature that has developed and provided evidence.

1. Prices and transactions volumes

There is evidence that transactions taxes cause a fall in asset prices in financial markets or, in exchange markets, an increase in the "bid-ask spread"[4]. Old and new evidence reveals that they also cause a fall in the long-run number of transactions. Empirical studies have provided supporting evidence for this. For example, evidence based on early data from the London Stock Exchange indicated that share prices fell by 0.2% and transactions volumes fell by 1.65% for every 1% increase in transactions costs (Jackson and O'Donnell, 1985). More recent evidence reveals for UK data that those shares with the highest turnover rate that, therefore, effectively incur the highest tax on share transactions, suffer the greatest price decrease in response to changes in FTT rates (Bond, Hawkins and Klemm, 2004).[5] But does this imply that FTT exacerbates volatility in contraposition to what we mentioned at the start—that proponents of FTT tend to argue that it would minimise volatility?

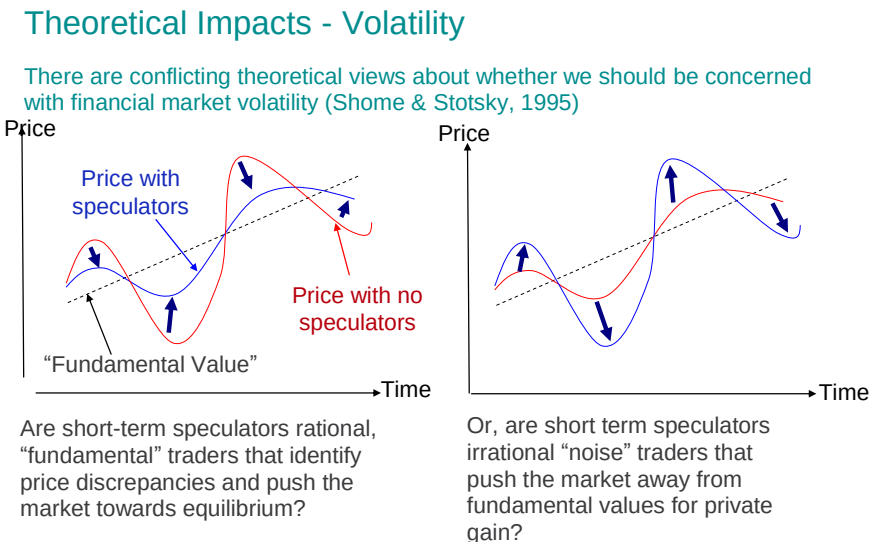
The crucial element in pinning down the impact of FTT would be an understanding of the underlying forces in a financial market. Two types of speculators typically operate in those markets: those who stabilise the market by their action and those who destabilise it. And since both behaviours are likely to be prevalent at the same time, and in the same market, it is difficult to separate the two. Indeed the same operator may exhibit alternating or mixed attitudes, rendering the setting more complex in reality than can be expressed through modelling. Figures 1 and 2 illustrate the market impact.

The red lines in both left-hand side (LHS) and right-hand side (RHS) diagrams indicate price movements in the shares market with no speculators, while the blue lines indicate the prices with speculators. The question is whether speculation brings prices towards, or away from, the dotted line representing "fundamental values". The old algorithm was that "stabilisation is stabilising". Thus on LHS, when prices are high, speculators sell, so that prices decrease, the outcome being that speculation brings prices towards fundamentals, or speculation is stabilising.

[4] Definitions from the website may be useful: http://www.investopedia.com/terms/b/bid.asp.
"Bid" is an offer made by an investor, a trader or a dealer to buy a security. The bid will stipulate both the price at which the buyer is willing to purchase the security and the quantity to be purchased.
"Ask" is the price a seller is willing to accept for a security, also known as the offer price. Along with the price, the ask quote will generally also stipulate the amount of the security willing to be sold at that price.
"Bid-Ask Spread" is the amount by which the ask price exceeds the bid. This is essentially the difference in price between the highest price that a buyer is willing to pay for an asset and the lowest price for which a seller is willing to sell it.

[5] Note, however, that financial intermediaries are exempt from UK's Stamp Duty Land Tax (SDLT).

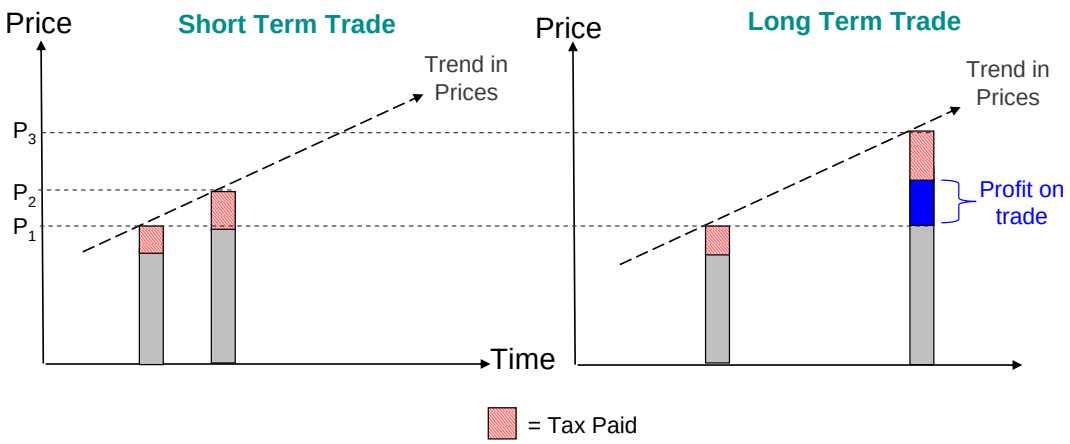
Figure 1



On RHS, the opposite occurs. When prices are rising, operators buy more under the expectation that they will rise even more. This type of trader is said to trade often (too often perhaps), usually in a herd, and is a "noise" trader that ignores market fundamentals. This is compounded by "technical trading" which takes place on the basis of recent price and trade volume information rather than on any analysis of fundamental or underlying economic data. The outcome is destabilising speculation, which pushes prices further up. However, indeed it is the relative strengths of the two that would determine the final outcome of whether market activity takes prices towards or away from fundamentals.

From here, it is but one step to see what an introduction of FTT might do. FTT would tend to increase transactions costs and subdue short term speculation or the frequency of bids that are found to cause volatility. In this role, FTT would make marginal short-term trades less viable, thus reducing this brand of speculation and, in turn, volatility. After the 1987 stock market crash, Stiglitz (1989) and Summers and Summers (1989) argued that FTT would reduce this type of noise trader by disproportionately curbing their behaviour. This is illustrated in Figure 2.

Figure 2



Both traders purchase the shares at P1. However the short-term trader sells the share more quickly for P2. In that time there has not been a large enough gain for the transaction to be profitable, given the amount of tax paid. [6] However, if the share is held for longer, then the price rises to P3 and the capital gain is large enough to make the transaction profitable.[7] In essence, FTT would dissuade a trader from selling early at P2. He would hold it longer and sell it at P3.

Extending this argument, the impact of FTT may have particular consequences for automated intra-day trading based on statistical analysis of ultra high frequency data i.e. on short term transactions; and the market may then move more towards fundamentals or the underlying long term trend. This is the crux of the argument of those who maintain that FTT would curb short term trading.

However, we know that prices don't rise in nice straight lines – it may be that short term traders spot short-term mis-pricing and therefore consistently trade with large gains. Additionally, the reduction in transactions simply means that, when people do trade, they trade in larger amounts in a "thinner market" with fewer participants – this means that there will be bigger gaps between the limit orders (offers to buy and sell that are conditional on price) in the market makers' order books. Farmer et al (2004) show that these gaps translate into increased price volatility whenever a market order (an order to buy or sell with immediate fulfilment regardless of price) is placed.

Furthermore, this structure of the market and the "limit order book" suggests that stock markets are inherently volatile even without needing to introduce the long term / short term conflict. A useful example is provided in Beinhocker (2007), as illustrated in the Box below.

Box 1: Short *vis a vis* Long Trades:
The Case of AstraZeneca

Farmer et al studied a moment of trading in AstraZeneca (AZ), a pharmaceutical company. At that moment, AZ's limit order book had a small limit sell order at £31.84, after which the next limit order was at £32.30.[1] A single, small market buy order of £16,000 came in. With this one small trade, the asking price jumped from £31.84 to £32.30, an increase of 46 pence or 1.4 percent. Calculated at the middle of the 46 pence bid-ask spread, the share price moved up by 23 pence. This added £374 million to AZ's market value, though there had been no policy or other reported change by AZ on that day. In sum a £16,000 buy order had generated a £374 million jump in the company's valuation simply reflecting the way market price recording and clearing take place without any reference to company performance. To what extent FTT could target only short term trades, therefore, becomes arguable in the face of a particular nature of the market itself.

[6] Note that the trader makes no after-tax profit.
[7] The after-tax profit is shown by the blue area.

2. Volatility and FTT

Traditional financial economics literature finds that the outcome of the market will be a random walk in prices, whereby all available information is reflected in the current price so that any future movements result from random exogenous shocks. However, there is now evidence that stock market prices do not follow a random walk pattern. There is a correlation between prices and time; the variance varies systematically through time and is not normally distributed (Lo and Mackinley, 1999).

The existence and role of volatility have emerged in the absence of a random walk in prices. Related questions that have arisen include, among others, how perfect are financial markets—are traders rational; whether it matters that the market is not a Walrasian auction in the absence of a *tatonnement* process for price determination; and whether volatility is a market failure that needs addressing.

First, we know that exchanges are not always perfect Walrasian auctions. In an early paper, Ratti and Shome (1977) showed how, in the presence of uncertainty, the usual rule for an auctioneer, that of searching for a set of relative prices at which excess demand in each market is zero, is no longer appropriate. More recently, Farmer et al (2004, 2005) have shown that the use of other means such as Limit Order Books to match buyers and sellers helps explain volatility in (uncertain) financial markets. In fact, the existence of irrational noise traders who trade on the basis of historical movements rather than according to market fundamental values makes the operations of other noise traders profitable in the short run within a dynamic, constantly evolving trading system, typically through herding behaviour.
As such, there is little backing for the disproportionate relationship implied by Summers and Summers since price distortions could affect both behaviour types. As a result of the price distortion, traders would tend to trade less often in general. They would also tend to trade in larger amounts, thereby containing their tax burden if the tax is per transaction. And since FTT would reduce volumes, they would be trading in a thinner market with lower market activity. Shoven (1991) claimed that FTT would alter the behaviour of both types of traders and investors, and that there was no reason to presume disproportionate effects on any one group.

While he did not extend his argument further, one explanation behind Shoven's contention would be that the same trader may be behaving in stabilising and destabilising fashion in the same market at slightly different points in time, or in two markets at the same time. Unfortunately these behaviours are not explained fully. Models of noise trading (De Long et al, 1991) and technical trading (Shleifer and Summers, 1990) are unable to provide explanations for these behaviours. For example, why do technical traders buy until a certain ceiling is reached when prices are rising, and sell when prices fall below a certain minimum? The models fall short of establishing one-to-one relationships between a trader and a behaviour or, for that matter, an "attitude to speculate". Dow and Gorton (2006) point to the lack of explanation on the identity of noise traders or their motives. This is probably because of the multiple personalities of traders and investors mentioned earlier. Instead of modelling

their behaviour and, from that, financial market movements, it may be essential to model financial markets themselves, for example through models of "complex" patterns that are a nascent science for predicting behaviours and patterns[8].

Second, government interventions such as FTT should be motivated by the existence of some kind of market failure; if the market works as imperfectly as described above, then arguments carry conviction such by Wei and Kim (1997) linking volatility and short term speculation, and Palley (1999) that speculators are noise traders who trade in and out of the market at inappropriate times, thereby increasing volatility in the market for other participants. As such, their private decisions do exert a negative externality that should be taxed.

Indeed, FTT is often suggested or implemented during periods of major financial disruption (Argentina 2002, Brazil 1999, Chile 1991). But do these typically short periods of volatility nevertheless require longer term structural changes, typically non-tax regulation, rather than a tax? It may be observed that the Great Depression was finally an occurrence of the past, not through marginal corrective measures, but after the establishment and implementation of the Federal Deposit Insurance Corporation (FDIC) that insured the savings deposits of U.S. savers and helped bring back savings into the banking system. Thus far, the current financial crisis of the late 2000's has not witnessed the introduction of comparable regulatory measures. A vote on the matter in the European Union has been postponed as of this writing.

3. Wider economic impacts of FTT

A tax on financial transactions is a tax that is mainly on an input or factor of production.[9] Hence, it is considered to be distortive[10]; it falls upstream in the chain of production and distribution. It could therefore have wide adverse economic impacts downstream. FTT typically takes the form of an excise levied on transactions in financial assets (in a domestic context) or on transactions involving currency conversions (in an international context). These were reviewed comprehensively in Shome and Stotsky (1995).

The economic effects of FTT on capital markets are pervasive. They may impose significant efficiency costs by increasing the cost of capital to firms. This would distort the smooth functioning of financial markets and affect input choices, for example, from equity towards debt that would carry efficiency costs. The increase in costs could reduce investment and subsequently GDP growth.

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[8] The theory of Chaos and Complexity is best explained through an example of throwing a pebble in a pond. The ripples have no pattern; therefore, are chaotic. At the edge of chaos, where the ripples are dying down, however, complex patterns, based on the Mandelbrot set $Z \rightarrow Z^2 + C$ (after the scientist who programmed it), may be discerned (Gleick, 1988). On the basis of this, hypotheses of behaviour may be formulated Complexity theory can thus be, and is being, used to explain biological cell growth, international trade patterns, or galactic formations. See Johnson (2009) and Beinhocker (2007). Statistical Institute, Kolkata, and Santa Fe Institute, New Mexico, have pioneered research in this area though it remains nascent.

[9] Strictly, a financial transaction could be construed to be a technology, while the input is the rental of this technology. The rental counts against GDP, not the transaction volume itself which does not. In this sense, some have argued that a tax on the volume is not distortive.

[10] Again, taxes are distortive in general. Its extent arises from cascading—additional—costs.

Furthermore, there is no easy way to design a uniform FTT. Transactions taxes applied at a uniform rate on all financial instruments would have different effective tax rates depending on the maturities and holding periods of the assets[11]. Derivatives also complicate the design of FTT since, under a comprehensive regime, they too should be taxed. Yet it is difficult to achieve equivalent taxation of cash and derivative instruments. Financial intermediaries pose another set of difficulties. There is the additional problem of foreign substitution: shifting the location of trade in financial assets to avoid taxes has been relatively easy even though there is increasing unilateral administrative action by tax authorities to combat this.

Therefore the question remains that, even if FTT were to curb some short term speculative trading and associated volatility, whether this advantage would not be outweighed by possible disadvantages by impairing the efficiency of financial markets. Compounding this analytical aspect, as recent international experience has revealed, without a broad international consensus, it would be difficult to implement or administer, and would be easy to avoid. We next focus on these practical matters.

4. Designing FTT

To begin, the FTT rate has to be very small since many financial markets operate on extremely small margins (in the order of 1 basis point for foreign exchange markets). Second, a derivative is a financial instrument that is *derived* from some other asset, index, event, value or condition (known as the underlying asset). They pose key questions for FTT design: to what extent can traders substitute into derivative markets; or will the constant innovation of new forms of derivatives enable further avoidance in the future with a cost in transparency. In terms of inter-country substitutions, how strong are incumbent / agglomeration advantages; is the tax base on a national or international basis, and so on.

The complexities arise because, rather than trade or exchange the underlying asset itself, derivative traders enter into an agreement to exchange cash or assets over time *on the basis of* the underlying asset. They can be used for both speculation and hedging of risks.[12] Thus, what is the correct tax base for derivatives—should an option be taxed if it is not exercised? Some "options" to buy at a later date are never used if the agreed price is above the market price. Would there have to be a different rule for each type of derivative (futures, options, swaps, financial spread bets, others)? If differential rates are used, we are basically assuming that we are able to correctly assess the equivalence between traditional and innovative instruments. Finally, many derivatives are not traded through exchanges; unless these are

[11] This was why Tobin considered it effective: long term investments would carry little tax, extremely short term (in seconds today!) would carry a high tax, which would fend off the latter type of trade. Today, it is the lack of separability that adds complexity to the issue.

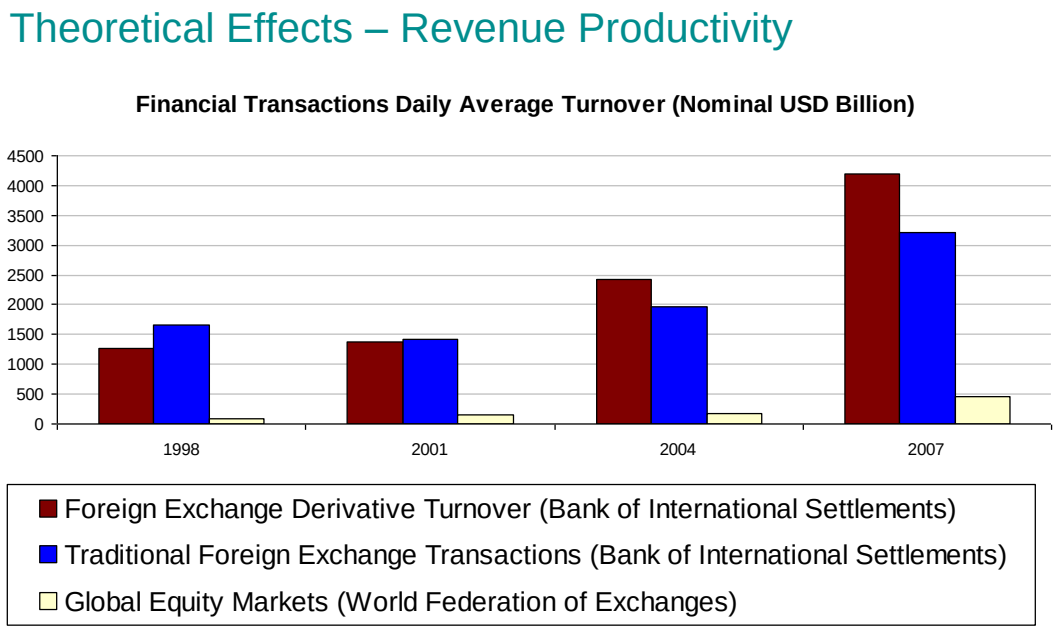
[12] An example of a derivative is a futures contract, an agreement to exchange the underlying asset at a future date at a price specified today. Derivatives offer only a partial substitute for equities or foreign exchange, for example, equity derivatives do not come with voting rights or dividend rights.

exempted, the collection cost of FTT would rise and the advantage of low FTT collection costs would diminish.[13]

5. Revenue productivity and collection costs

In order to gauge the revenue potential of FTT, Graph 1 illustrates the sheer scale of daily turnover values on global foreign exchange and equity markets (in 2007 an average turnover of more than US$ 7 trillion). Derivatives represented over $4 trillion, traditional foreign exchange transactions over $3 trillion, and global equity markets over $1/2 trillion. Therefore one can perceive the temptation for generating revenues from this source—even a tiny cut of this huge amount would represent a very large global number.

Figure 3



Another attraction to use FTT is its low cost of collection. The taxes can be collected using automated computerised systems at a very low cost. Available UK data for 2000-01 show that collection costs for FTT (stamp duties for shares and property) were 9 pence for £100 collected while the average collection cost across all taxes was £1.11 (Hawkins and McCrae (2002)[14].

[13] Nevertheless, the UK operates a stamp duty on trade on exchanges, and a stamp duty reserve tax on assessed tax bases in parallel. Moreover, there are recent policy trends to create exchanges for certain OTC transactions and render them mandatory for trading.

[14] In contrast, that of corporate income tax was £1, capital gains tax £1.3, and personal income tax £1.6.

III. Empirical Evidence and Cross-Country Experiences

1. Evidence of theoretical premises

In terms of empirical evidence on the effects of FTT, while there are considerable evidence gaps in our understandings of how markets work, the overall stance seems to be that FTT and lower volatility cannot be linked unequivocally. And this despite the conceptual arguments made above with respect to the possible salutary impact of FTT in containing volatility. Indeed, early econometric evidence seems mainly to find insignificant relationships or a lack of correlation between transactions costs and volatility.

Newer approaches that have explored the problem with sharper modelling come to similar conclusions. Mannaro, Marchesi and Setsu (2008) use a computer based simulation model to find that FTT increases price volatility. Bloomfield, O'Hara and Geldo (2009) use a series of laboratory experiments to conclude that such taxes reduce the number of transactions by an almost equal proportion for both rational fundamental traders and irrational noise traders. Therefore, even if noise traders were disruptive, it is unlikely that they could be targeted using FTT.[15]

On country based evidence, Hakkio (1994) studied the impact of the stock market crash of October 1987. He found that the crash was as severe in countries with domestic securities transactions taxes (Sweden, Switzerland) as those without (Canada, United States). He in fact contended that the crash in Sweden was most severe. The obverse seems also to be true. Over the years, transactions costs have reduced across the world. Yet, there is no clear evidence that low tax (reflected in decreasing transactions costs) increased volatility. Thus Hakkio's paper provides little evidence of FTT's power to contain volatility; on the contrary.

More recent papers have also arrived at similar conclusions. They use panel data allowing the separation of market-wide volatility from volatility caused by transactions costs. Hau (2006) has used data from Paris Stock Exchange to show transactions costs increase volatility. Some other papers relating to the U.K. and U.S. reviewed in Hememlgarn and Nicodeme (2010) also reject the hypothesis that a decrease in transactions costs increases volatility.

Recent time series work on China (Baltagi, Li and Li, 2006) concludes that a stamp tax increase from 0.3 percent to 0.5 percent lowers trading volume by one third. Only in the case of Japan, Liu and Zhu (2009) find a negative relationship between transactions costs and price volatility.[16]

Further, empirical views on FTT's wider economic impact also vary significantly. For example, Suescun (2004) uses a computable general equilibrium (CGE) model for Brazil to suggest that FTT may be less distortive than a capital earnings tax or even a labour income

[15] This reflects Shoven's (1991) contention referred to earlier.
[16] This is a rare evidence of the contention by Stiglitz (1989) and Summers and Summers (1989).

tax in a particular economic environment. It is to be recalled that Brazil used a comprehensive FTT in the late 1990's to alleviate a large fiscal deficit and to forestall a collapse in confidence in its economy. However, most policy studies suggest FTT may be particularly burdensome and are better abandoned (Coelho et al, 2001).

2. Cross-country experience and why countries use FTT

Given that the conceptual relationships as well econometric evidence are far from certain and cannot endorse a FTT, it is surprising that they have been and are used in many countries. Their structures are generally simplistic, with rather little reflection of efficiency, equity, or stabilisation considerations, confined to particular objectives to be met for the needs of a unique economic moment.

Table 1

Examples of Financial Transactions Taxes in Practice

Selected examples of countries currently using some form of a Financial Transactions Tax

	Equity Transactions	Derivatives	Corporate Bonds	Government Bonds	Currency Transactions	Consumer Account Transactions	Consumer Credit Transactions
Argentina	✓	✓	✓	✓		✓	
Belgium	✓		✓	✓	✓[1]		
Brazil	✓		✓	✓	[4]		
Chile						✓[2]	✓[2]
China	✓						
France	✓				✓[1]		
Hong Kong	✓						
India	✓				[3]		
South Korea	✓		✓				
United Kingdom	✓						
United States	✓						

1) Established in legislation although only comes into effect if all EU countries introduce a currency transactions tax
2) Rate temporarily reduced to 0% for 2009
3) Recently removed tax on cash withdrawals
4) CPMF was not renewed in 2007

Table 1 is not an exhaustive list of country uses of FTT. However, it provides selected examples of countries that have used them. It is obvious that many countries use FTT on equity trades that form a relatively minor source of revenue. However, several South American countries have made extensive use of other types of FTT including on bank account debit and credit, loans and currency transactions. There is also a high "turnover" in these taxes with many examples of withdrawing them over the last two decades. Apart from Brazil, Chile and India, other examples include Denmark, Italy, Japan, Portugal and Sweden that have removed their FTT's.

The rationale or motives behind implementing FTT in practice have been varied, including: (1) historical practice reflecting rudimentary design coupled with low cost of collection; (2)

revenue generation; (3) economic stabilisation; and (4) tax compliance. Examples of each of these follow.

The UK Stamp Duty Revenue Tax (SDRT) is a 0.5 percent tax on share transactions on UK Exchanges (primarily London Stock Exchange, LSE). There is an exemption for intermediary trades and a one-off 1.5 percent charge to move shares to foreign exchanges (where they subsequently do not pay SDRT). A 0.5 percent charge also exists on paper trades of shares with a transaction value greater than £100. Deduction of SDRT is completed automatically through CREST, an automatic settlement system of LSE. Of course, most countries cited here have similar traditional transactions taxes or stamp duty to that of UK.

However, there are many cross-country examples of ephemeral FTT's of which two more are described. In 1999, Brazil introduced a Provisional Tax on Financial Movements[17] that had a wide base in cross-country experience with the objective of revenue generation. The tax was on bank debits at 0.38 percent on all debits except transfers within a bank from and to a similar account (but transfers from current to savings accounts were in the base). CPMF was introduced on a temporary basis and renewed each year until 2008 when it was abolished within the fiscal stimulus package during the global recession. Revenue accounted for around 8 percent of central tax revenue or 1.5 percent of total government revenue.[18] Given the sudden influx of capital during the recession (as international capital sought safe havens), Brazil again introduced a 2 percent tax on capital inflows in October 2009 with stabilisation as an objective. Brazil, therefore, exemplifies the use of FTT for temporary periods for the achievement of specific objectives.

In the1990's, Chile used a similar arrangement for stabilisation purposes by discouraging hot money flows. It was operative between early 1991 and late 1998. Banks deposited a sum in the central bank for every foreign exchange transaction, interest free. This "reserve requirement" effectively on foreign loans initiated at 20 percent of the loan, while the borrower was servicing the full loan to the lender abroad. The reserve could be withdrawn only after a one year period irrespective of the agreed term of the loan. The rate was increased to 30 percent in late 1992. However, it was eased as destabilisation anxieties from excessive short term capital inflows, with its deleterious ramifications on currency appreciation and inflation, abated. Thus, in 1995, financial transactions involving less than $200,000 per person per annum became exempt from the reserve requirement. In mid-1998, the requirement fell from 30 percent to 10 percent and, later that year, it was abolished.

De jure capital controls may not, however, work under all circumstances. Patnaik and Shah (2010) have just studied this matter in the Indian context. While all firms—MNC's and non-MNC's face the same capital controls and, should theoretically exhibit similar behaviour towards foreign borrowing (within the capital control constraints). However, they find that, at the crisis point of Lehman Brothers bankruptcy on September 13-14, 2008, Indian MNC's

[17] Contribuicao Provisoria sobre Movimentacao Financeira (CPMF)

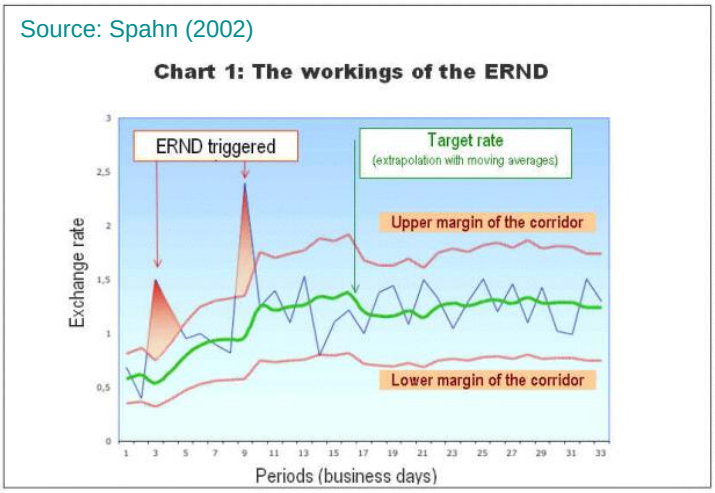
[18] CPMF revenue was earmarked for the National Fund for Health (0.2 percent); for poverty programmes (0.1 percent); and for social assistance (0.08 percent).

had larger credit exposures compared to non-MNC exporters with similar size and leverage. The authors suggest that the MNC's were using the global money market, borrowing in India and taking capital out of India. With this effective capital account convertibility, the implication would be that capital controls as an instrument for stabilisation has lost much of its effectiveness.

Figure 4

Rationale 2 - Stabilisation

Source: Spahn (2002)



In 2004, Belgium introduced legislation on a two-tier tax on foreign exchange transactions. The Private Members bill explicitly states the opinion that "speculators' activities have an important destabilising effect" and that the tax would "solve this situation". It has been termed the Spahn Tax after the economist who designed it (Spahn, 2002). Figure 4 depicts how the Spahn Tax would operate.

The tax will only come into effect if enacted by all other EU states. It introduces a flat rate of 0.02 percent on all transactions with an 80 percent surcharge for the value of any transaction that falls outside some pre-determined fluctuation margin. The tax does not define how this margin would be determined, stating that this would be decided by the European Council of Ministers. Revenue raised would be explicitly allocated to an EU development, social and ecological conservation fund.

More recently, Schulmeister et al (2008) have advocated a general and uniform ad valorem FTT at the European level to be imposed on all financial transactions. They contend short term technical trading to be the main cause of excessive volatility in liquidity and prices in the medium term and that FTT would contain speculative short term trading. Overall, EU proponents with comparable views indicate that such a tax should fall on all spot and derivatives transactions on organised exchanges as well as all over-the-counter (OTC) transactions which are directly related to asset prices, as well as related derivatives. The rate

should be between 0.01 percent to 0.05 percent. The base should be the notional value of the underlying asset of a derivative, option or futures at the spot price.[19]

With the objective of improving tax compliance, India introduced the Bank Cash Transactions Tax (BCTT) in 2005. It was levy of 0.1 percent on all cash withdrawals in a single day totalling to more than Rupees 50,000 (approximately US$ 1,000) for individuals and Rupees 10,00,000 (US$ 20,000) for others. It was introduced to track unaccounted money and trace its source and destination. It was an unpopular tax. BCTT was withdrawn from April 2009 with the Finance Minister stating that "the information is also being gathered through other instruments introduced in the last few years".

IV. Concluding Remarks

To sum up, we still lack convincing evidence concerning the effects of FTT, in particular what impact they have on volatility of financial markets, or what long run revenue potential these taxes have. Nevertheless, many examples of actual use of FTT exist across the world though often they tend to be temporary once their specific, momentary objectives are met. Hence they seem to be disliked even by the policymakers that use them obviously for their well recognised deleterious efficiency ramifications.

The design of a comprehensive, efficient, equitable and revenue productive FTT remains complex since it is difficult to define an appropriate base that would meet all criteria. Issues that challenge include, first, how to distinguish between short term and long term elements so that only the former may be targeted by tax. Country experiences reveal the essential arbitrariness of this distinction. Second, distinguishing debt and equity is not obvious since their separation is not seamless. Third, the treatment of derivatives remains a stumbling block: whether to tax the underlying value at a very low rate, or whether, and how, to tax 'Call' and 'Put' options instead[20]. Fourth, the treatment of financial intermediaries remains crucial if we are to remain cognizant of not taxing a particular financial asset more than once. Fifth, foreign substitutions would need special treatment reflecting, for example, the occurrence of trading in U.S. equities outside of the U.S.

[19] Hemmelgarn and Nicodeme (2010) rightly point out, however that the real cash flows connected to the purchase of derivatives are likely to be much smaller than their notional values, and also tend to vary across derivative products. Thus even a small tax rate might translate to a high effective rate. In turn, this could adversely affect hedging and transfer activities among products.

[20] Both types of options are between two parties – the writer and the buyer of the contract – used to manage risk on n underlying asset or commodity. In Call options, the purchaser of the contract gets the right (but not the obligation) to buy the underlying asset from the writer of the contract at a fixed price set at the start of the contract. In Put options, the purchaser of the contract gets the right (but not the obligation) to sell the underlying asset to the writer of the contract at a fixed price set at the start of the contract. In a variation, European Call/Put options have a single end date (or short period close to the end date) at which time the contract purchaser can decide to exercise the option (enforce the contract and buy/sell the underlying commodity), while American Call/Put options can be exercised at any time up to the termination date of the contract.

Therefore, it is not easy to be optimistic about a well designed FTT that successfully addresses issues of efficiency and equity. Nevertheless, in a turbulent global financial environment, it is to be expected that an FTT would be used unilaterally by a country to protect itself from unwanted capital inflows, or that multilateral attempts would be made by those countries nearest to financial turbulence. However, under extreme circumstances, history reveals that non-tax structural institutions, rather than a tax, are needed to seek and support the trajectory out of deep recession. The EU has proposed better co-ordination of national supervisory bodies and regulatory rules and even a common rule book. Its voting has been recently postponed, however.

Such a possibility would be to design a regulatory framework that would have the advantage over FTT in a way that the latter's uncertain effect on volatility is obviated. Aziz, Patnaik and Shah (2008), for example, have emphasized the need to put banking regulation and supervision on a sound footing, built on monitorable targets reflecting high frequency data that have the power to yield numerical metrics and trigger off liquidity and solvency action. Arora and Rothinam (2010) have more recently noted that India's regulatory environment for derivative contracts – utilising Central Counter Parties and more stringent reporting requirements – may have avoided exposure to the same risks that initiated the most recent financial crisis in the US as well as provide additional transparency. Regulation would also limit onerous taxpayer burdens at future such events, through higher capital requirements for banks and financial intermediaries. It might increase financial costs but it has to be viewed in light of artificially low financial sector costs that made ninja—no income, no job, no assets—loans possible prior to the latest global financial crisis. It would also limit future costs on taxpayers who are now suddenly burdened with a formidable shift up in public debt whose impact is surely to fall significantly on future generations.

In conclusion, between the two, the non-tax regulatory route has greater advantages than does FTT. If both instruments are to be used, a very small, temporary, global FTT with clearly earmarked equity goals may be envisaged. For that, consensus building remains a major task, but that consensus may be building as more advanced economies surge towards unsustainable deficit and debt to which rating agencies are reacting adversely ever so strongly.

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