February 2010

Financial Transaction Taxes:

Tools for Progressive Taxation and Improving Market Behaviour

Sony Kapoor

Managing Director, Re-Define

Re-Thinking Development, Finance & Environment

www.re-define.org

A Re-Define Policy Brief

Abstract

This paper examines the all important question of the incidence of financial transaction taxes, seeking to answer the question 'who pays in the end', should FTTs be widely introduced. It shows that across a number of market segments trading volumes are increasingly dominated not by traditional investors such as pension funds or insurance firms but by high frequency traders, hedge funds and investment banks. The paper further shows that the initial incidence of the tax falls on the dominant actors who also have the capacity to absorb a large proportion of the tax. This ensures that the tax burden is highly progressive falling mainly on those most able to pay – hedge funds and investment banks and their highly paid employees. Moreover, governments would be able to take steps to minimise even the small effect on the pension funds or savings of the broader public.

Furthermore, introducing a well-thought out differentiated schedule of taxes across markets could improve market function and reduce systemic risk by 1) penalizing excessive short-termism across all markets 2) penalizing complexity by imposing higher rates on more complex transactions 3) penalizing lack of transparency and excessive counterparty risk by imposing higher tax rates on over the counter transactions and 4) imposing higher rates of taxes on socially harmful or less useful transactions.

Note

The discussion on financial transaction taxes is reaching a climax. There have been several suggestions for the form such a tax should take and many estimates for how much revenue levying such taxes would generate often running into hundreds of billions of dollars.

At Re-Define, we have a history of having refined the general idea of financial transaction taxes to a stage where the idea has gained traction in the political and technical circles of countries such as Germany, France, UK, Norway and others.

While we advise several G-20 and non G-20 finance ministries as well as international agencies on several regulatory, fiscal and macroeconomic issues our work on financial transaction taxes has been in increasing demand.

In the interest of making a useful and informed contribution to the growing public debate on this topic, we are putting out a series of Policy Briefs on Financial Transaction taxes based on our work with various finance ministries.

This is the first in the series of such briefs and addresses: 1) the objective of FTTs 2) the principles for designing FTTs 3) the incidence of FTTs. The next brief will compare and contrast bank levies and financial transaction taxes. All the briefs can be downloaded from www.re-define.org or Re-Define Europe on Facebook.

A Re-Define Policy Brief by Sony Kapoor[1]

Table of Contents

[1] *Sony Kapoor is the Managing Director of Re-Define (www.re-define.org) and a former investment banker and derivatives trader. Re-Define advises several governments and international organizations on financial market reform.*

Introduction: Churning, Volatility and Noise: the changing nature of finance

Churning, or deliberately carrying out far more transactions than necessary in order to earn higher fee income from clients, is widespread in the financial industry. This is despite the fact that regulators have frowned upon it or in some jurisdictions made it illegal. It is widespread because many brokers and fund managers earn an income on each transaction, so it is in their interest to churn to maximise income. It is mostly retail investors who end up paying this excessive fee[i].

Trading in most securities has also become increasingly short term, with average investment horizons shrinking from years to days. For high frequency traders, who now account for an increasingly large share of trading across several asset categories, the average holding period for securities is often a few minutes or even seconds.

Lord Myners, a former fund manager and present City Minister, has said that he fears companies could become "playthings" of speculators because of super-fast automatic share trading. He said that such practices risked destroying the relationship between an investor and a company. He also said that "the fact that people can own shares for nano-seconds seems completely divorced from the concept of a joint stock company". – BBC Interview[ii]

Lord Myners succinctly captures what is an increasing problem in capital markets: their role as information markets, providers of capital and overseers of investments is being undermined by an ever-shrinking investment horizon and corresponding increase in the volume of transactions.

In September 2009, the widely respected Aspen institute in the United States released "Overcoming Short-termism", a policy document urging the government to address the issue. One of the report's central proposals is to levy an excise tax on financial transactions. Warren Buffet, the legendary investor, John Bogle, the founder of the Vanguard group of investment companies and James Wolfensohn, the ex-president of the World Bank were some of the prominent signatories of this call[iii].

Another disturbing trend in financial markets is their increasing volatility. While new information on companies or relevant macroeconomic variables emerges rather infrequently, market prices are highly volatile and transactions far more frequent than can be justified by reaction to new information alone. A Financial Times report registered 90 trades and 72 price changes in the stock of Vodafone in less than a minute on a typical day[iv].

In surveys of traders in foreign exchange markets, two thirds of them say that for time horizons of up to six months, economic fundamentals are not the most important determinant of trading prices. Instead they point to speculation, herding and 'technical trading'[v].

In technical trading 'the trend is one's friend' - traders buy when the price of the security is going up and sell when the price is falling, based on certain market patterns[vi]. Most algorithmic trading (high frequency trading) also follows similar patterns. Taken together these practices amplify the 'noise element' of financial markets and by relying primarily on the actions of other market actors and price moves as an information source, can seriously reduce the informational efficiency of financial markets. Such behaviour exaggerates price swings, results in markets overshooting, can significantly increase market volatility and eventually amplifies boom-bust patterns observed in financial markets.

The Case for Financial Transaction Taxes

Financial transaction taxes increase transaction costs on short-term trading and so penalize those with excessively short-term investment horizons. Their introduction could significantly improve the functioning of financial markets by reducing the churning, excessively short-term focus, excessive volumes and volatility in these markets. This is also likely to significantly increase the informational efficiency of financial markets. FTTs have the potential to generate billions of dollars in cost savings and efficiency gains, which would be additional to revenue raised by the tax itself. As suggested by the Aspen institute, an FTT will create an incentive for more stable, long-term investments[vii].

Retail and institutional investors pay billions of dollars of excessive brokerage fees and charges which are the direct result of brokers directing client money into more volatile securities since these are likely to be traded more often and thus generate a greater fee for brokers and an excessive amount of trading in securities in order to maximise fee generation even when the fundamentals do not justify such trading[viii]

The excessive volatility that results from an increasingly short-term focus in the market and the growing dominance of technically driven traders over those who trade on the basis of economic fundamentals means that both long-term investors as well as corporations that raise capital in the markets lose out. Long-term investors can lose substantial sums of money because of the higher volatility of the securities they invest in and also lose billions in trading costs due to having to trade more frequently in response to greater volatility than they otherwise would. Users of capital markets can lose out because the market signals they receive, which influence their investment decisions, are based less and less on economic fundamentals and driven increasingly by technical trading strategies.

Who pays financial transaction taxes in the first instance?

The first incidence of a broad-based financial transaction tax will fall on those institutions that trade in financial markets in rough proportion to the volume of trading for which they are responsible. Each financial market has its own set of dominant players and there is no single comprehensive data source which attributes overall shares of financial market activity to different kinds of financial market actors.

However, some things are clear

- Banks are major actors across most financial markets

- Investment banks in particular have a propensity to trade more often across a greater number of financial markets

- Banks are being overtaken by other actors such as hedge funds in financial market trading volume

- Regulatory changes currently being implemented or actively considered will mean that the contribution of banks to trading volume is set to decline further.

A quick review of publicly available data sources[ix] shows that

- High frequency traders (often part of hedge funds), now account for a significant and ever increasing share of market volume in an expanding array of on exchange financial market

- Hedge funds (even excluding high frequency traders) are playing an ever more important and fast expanding role in many financial markets both on and off exchange.

- Hedge funds dominate trading activity in equity markets, account for more than 50% of the volume in certain kinds of OTC derivatives[x], are by far the biggest players (by volume) in certain fixed income markets, are fast increasing their market share in foreign exchange markets and are prominent actors in commodity markets

Box: A snapshot of the increasing market power of hedge funds

- High frequency traders now account for 70% of US equity market trading volume and account for between 30%-40% of the trading volume at the London Stock Exchange[xi]
- High frequency traders reportedly account for 50% of US future market volume, 25% of foreign exchange volume are becoming increasingly important in options markets[xii]
- Banks account for only 13% of the trading volume at the Chicago Mercantile Exchange one of the largest and most diversified exchanges in the world trading in commodity, equity, energy, forex, interest rate,

metals, real estate and weather products[xiii]. Much of the balance is attributable to hedge funds.

- Hedge funds represent more than 30% of the volume in high yield debt, 90% in convertible bonds, almost 90% of distressed debt[xiv] and emerging market debt[xv]
- Hedge funds are the dominant players in the credit default swap market accounting for more than 60% of market volume[xvi].
- Hedge funds are responsible for between 55% and 60% of transactions in leveraged loans[xvii]

This trend will only be reinforced because of three new regulatory developments in response to the financial crisis.

- Under new regulatory guidelines, the capital that banks are required to hold against their trading exposure is likely to increase by something like 300%, making it significantly less profitable for banks to engage in heavy financial market trading. Since this constraint will apply only to banks and not for example hedge funds, this will accelerate the trend towards financial market volume shifting away from banks

- Under the recently announced Volcker rule in the United States banks will no longer be allowed to engage in proprietary trading or own hedge funds. It is in fact the proprietary trading desks of banks and in-house hedge funds that account for a very large share of banks' total trading volume, so when banks are forced to separate these functions the total share of banks in trading volume is likely to fall significantly[xviii].

- New regulatory guidelines, which include a strong emphasis on standardising derivatives, clearing them through a central counterparty and trading them on exchange where possible, will significantly erode the entrenched advantage that banks have over other actors such as hedge funds owing to their inter-dealer networks, client relationships and market maker status. This will also push trading volumes away from banks and towards actors such as hedge funds.

Parallel regulatory and private efforts to centralize bond trading, bring more of it on exchange and make it electronic are progressing and will also result in a greater share of non-bank actors in trading volume.

In sum, this means that the initial incidence of financial transaction taxes will vary across financial markets, but for a number of major markets such as equity, derivatives, commodities, high yield debt and foreign exchange, the burden of incidence will be borne increasingly by hedge funds, including high frequency trading shops. Investment banks are likely to be liable for a significant but declining share of the tax. Commercial banks are more active in certain market segments such as government debt, so will pay part of the tax revenue in those segments.

In terms of overall assets, other actors such as sovereign wealth funds, pension funds, insurance firms and mutual funds are much bigger than the hedge funds and bank actors we have discussed above and own large shares of equity and bond markets in particular. However, these investors, which pool savings from retail investors, are typically 'buy-and-hold' investors[xix] and turn their portfolio around less than once a year[xx]. At the other extreme, high frequency trading firms typically buy and sell their whole portfolio several times a year, sometimes several times within a single day. Since the financial transaction tax is levied once per transaction, that would mean that per unit of assets, these high frequency traders would be liable for as much as 250-500 times the tax rate as a typical long-term investor, who would only need to pay the tax once a year. Other hedge funds and investment banks also have much higher portfolio turnovers than long term investors so would be liable for much higher effective tax rates. .

So at the point of first incidence, the financial transaction tax is likely to fall most heavily on hedge funds and investment banks with only a relatively small share eventually falling on long term investors such as pension funds. Direct retail investors such as day traders or individuals who handle their own portfolios are a very small percentage of the total market and trade only in certain instruments most notably equity. They are virtually absent from other financial markets such as those for credit default swaps etc.

Moreover, mechanisms could be put in place so that exemptions or tax refunds targeting retail investors or pension funds can be provided so as to make sure that the initial incidence does not harm them.

The main design parameters for each constituent part of the family of transaction taxes will be

- The financial markets it is applied to
- The rate at which it is assessed in each of the markets
- Whether exemptions are built in for certain intermediaries or end users
- The points in a transaction cycle at which the tax is assessed and collected

These parameters can be tweaked so as to achieve appropriate public policy goals such as

- Maximising revenues
- Minimising retail or long term investor impact
- Targeting certain financial actors or instruments for higher rates of taxation
- Minimising avoidance

Why not increase other forms of taxes to raise revenue?

In the end, corporations do not pay taxes, people do. This is an oft-heard refrain in tax policy. It is true.

However, to suggest that this implies that it is futile to tax corporations is disingenuous.

Taxation of all kinds finally feeds through to individuals in the form of

- Income taxes
- Wealth taxes
- Transaction taxes
- Consumption taxes
- Higher prices for goods and services

But who pays what proportion of tax depends primarily on the design of the tax system.

Tax systems are extensively used for

- Raising revenue
- Redistributing its proceeds
- Rewarding or punishing actions, activities or behaviour

Now imagine that a fixed amount of revenue needs to be raised by the government. It could

- Increase income taxes
- Increase wealth taxes
- Increase transaction taxes
- Increase consumption taxes

Under current economic circumstances, when national economies in many countries are struggling under the weight of record fiscal deficits and faltering growth, it is clear that new tax revenue is essential but also that such taxation should as far as possible

- Avoid burdening those who are already suffering most due to the crisis
- Avoid discouraging consumption or investment, which are needed to stimulate growth

This means that increasing value added taxes is not a good option since

- They have a regressive incidence so will hurt those at the bottom of the income strata who have suffered most as a result of the crisis
- At this point in the economic cycle, governments need to encourage and any increase in VAT will have the exact opposite effect The UK government had actually cut VAT to stimulate consumption

Increasing income taxes on individuals and corporations would be a viable option. However

- The UK government has already increased the top income tax rate to 50%, so scope for further increase at the top may be limited at present
- While increasing corporate income taxes in the long term may be a good idea, in the short term we need to be careful since the economic crisis has left several real sector companies in a somewhat fragile shape.
- A targeted income tax on the financial sector or another form of tax such as levies of bank balance sheets which are currently being discussed may be a good idea and these are discussed in our next policy brief

That leaves us with wealth taxes and transaction taxes, both of which may be good policy measures. A discussion of wealth taxes of the kind that countries such as Norway levy deserves a paper to itself, so here we will continue our focus on transaction taxes.

Well designed financial transaction taxes can fulfil the three main purposes of tax policy

- Raise substantial tax revenue
- Penalize certain kinds of behaviour such as excessive short-termism
- Redistribute revenue to those most in need

Box: Will the financial transaction tax not eat into other forms of tax revenues?

The fact that levying additional taxes can eat into the tax revenue from existing taxes is well-known in tax policy circles. This will also happen to some extent when new financial transaction taxes are introduced. However as the discussion below shows, FTTs will generate significant 'additional' tax revenue even after the loss of revenue through existing taxes is accounted for.

Financial transaction taxes will reduce the profitability of financial institutions which pay the tax. This would result in lower corporate taxes being paid by these institutions. So the real tax revenue for say every $100 million face value raised by financial transaction taxes would not be $100 million but less.

Let us assume that a financial institution currently generates a profit of $100 million and at a taxable rate of 30% so pays $30 million in income tax[xxi]. Now assume that the institution pays $10 million in financial transaction taxes out of its pocket. Its new profit is then only $90 million so the income tax payable is now $27 million not $30 million.

However the total tax paid by the institution is now $10 million FTT + $27 million Income tax = $37 million as compared to the original tax payment of $30 million.

So it is true that financial transaction taxes will 'cannibalize' some existing tax revenue and hence generate somewhat less net additional tax revenue than the headline figures on financial transaction tax volume alone would suggest. However, as long as the current tax rate is less than 100% substantial additional tax revenue would still be generated.

Based on prevailing tax rates in the UK, a back of the envelope calculation would suggest that of every $100 in revenue generated by financial transaction taxes at least $70 would be additional revenue.

So who does the final incidence of the tax fall on?

The taxes will finally filter through to individuals through a number of mostly indirect channels including

- Lower profits for owners of capital invested in financial markets and bank shareholders. Since the point of first incidence of the tax will be on institutions active in these markets, the burden of the tax would at least partly have to be absorbed by these institutions themselves. This would reduce profits for entities such as investment banks and hedge funds in particular, so reducing the dividend payouts to investors who own banks and who put their money into hedge funds.
- Lower compensation for employees of financial institutions. The compensation of employees of hedge funds and investment banks in particular is an order of magnitude higher than that of ordinary workers. Typically, financial market actors pay their employees a set percentage of revenues so the payment of transaction taxes that depress profits will result in lower payouts. Given the intensity of the ongoing debate on bonus practices in the financial sector, this would be a step in the direction that public policy as well as public opinion is leaning towards.
- Somewhat higher transaction fees for users of financial institution services. As the discussion below will show, financial institutions have the capacity to absorb the majority of the tax burden. However, they will definitely pass on part of the burden of the tax to their customers, most of whom are large corporate entities. The extent to which this is done would depend on the competitive landscape within which the institution operates - a higher degree of competition leading to lower pass-through to end users.

For example a tax on foreign exchange transactions would reduce gross revenues for investment banks which will 1) report lower profits and hence disburse lower dividends to their shareholders 2) reduce the compensation ratio (the percentage of revenues paid out as compensation) for employees to reduce the effect on net profit and 3) try and increase the fees they charge to their (mostly large corporate) customers somewhat to earn additional revenue.

Who finally pays how much of the tax and how progressive its final incidence would be will depend on a number of factors which influences what channels the tax passes through and where it gets absorbed .

The shape of the pass through channels will be determined by

- Which institutions the initial incidence falls on
- Who the stakeholders in these institutions are
- Who uses their services most

The absorptive capacity at each stage will be driven by

- How profitable they are
- How much they pay their employees
- How competitive their operating landscape is

As we have seen in a previous section, the initial incidence of the tax would fall perhaps most heavily on hedge funds, investment bank proprietary trading desks and in some market segments on commercial banks.

Hedge funds were traditionally used as investment vehicles by ‘high net worth individuals’ or those with more than $1 million in liquid assets. Even now, a significant proportion (if not majority) of hedge fund capital comes from these super-rich individuals and families. Institutional investors such as some pension funds and endowments have in recent years started to put increasing amounts of money into alternative asset classes including hedge funds, but even now pension funds account for less than 25% of investments in hedge funds[xxii].

Hedge funds are reported to have between $2 trillion and $3 trillion in assets under management and in most years have delivered between 15% and 20% return on these assets which points to profits of between $300 billion and $600 billion annually[xxiii].

The world’s top 1000 commercial banks have reported profits of between $700 billion and close to $1 trillion in recent years with the exception of last year when the financial crisis cut deep into these profits[xxiv].

Investment banks have been earning substantial amounts of revenue with Goldman Sachs alone having reported accumulated revenues (gross income) of over $250 billion since 2000[xxv]. Typically institutions such as Goldman pay nearly half of this revenue to employees as compensation, more than half of it in the form of bonuses.

Looking at investment banks including European actors together, the profits of investment banks have exceeded $100 billion in several of the past years are now set to go back to levels seen before the crisis[xxvi].

Compensation levels in the finance industry have been in the news recently, where the contrast could not be greater between the suffering of those at the bottom rung of society who have suffered most as a result of the crisis and the celebration of financial industry actors who despite their contribution to precipitating the meltdown, are already back to their business-as-usual excessive compensation levels. In London alone, more than 10, 000 bankers are now each in line for more than £1 million in compensation this year[xxvii].

Bankers earned nearly $100 billion a year in bonuses in the boom years. Compensation levels in the hedge fund industry put even these excessive bank compensation levels to shame. In 2007, the top 25 hedge fund managers on average took home $892 million *each*[xxviii]. Even a lowly average portfolio manager in a hedge fund earns about $7 million[xxix].

Clearly, the financial sector has ample capacity to absorb a significant proportion of the transaction tax through a combination of lower profits and lower compensation for employees. While some of the costs will be passed through to the real sector of the economy, the bulk of the tax burden will fall within the financial sector itself, primarily on hedge funds and investment banks.

Some final thoughts for policy makers

It is clear that financial transaction taxes, applied well, are an excellent tool to address the increasingly serious problem of short-termism in financial markets. They have a significant potential to improve the informational efficiency of financial markets and will encourage a long term investment horizon more compatible with sustainable and productive investments

It is also clear that such taxes could raise significant additional revenues of the order of $200bn - $400bn with minimal impact on the real economy or retail consumers. The tax will have a highly progressive final incidence that falls mainly on the top income earners and wealth holders in society.

What is more, policy makers are in an enviable situation of having a number of tools at their disposal so both the incidence of the tax and its impact on behaviour in the financial markets can be customized so as to maximise the positive footprint of the tax and minimise any negative side effects.

Policy makers can make sure that the final incidence of the tax is most progressive and is borne to the greatest extent by actors within the industry by

- Levying a higher tax on market segments where hedge funds and investment banks are the main actors
- Increasing competition in the financial services industry. For example, high barriers to entry and low competition are one reason that investment banks are able to earn excessively high profits

- Introducing restrictions on employee compensation in the financial services industry which would increase the amount of revenue available to absorb the additional costs of the tax
- Tougher controls on excessive charges for end users
- Using an exemption and refund regime that reduces the burden of the tax for certain segments such as pensioners

In parallel, they can make sure the equally important impact on market behaviour is positive by

- Penalizing socially harmful (or less useful) market segments with higher rates of taxation
- Levying higher taxes on more complex transactions now that complexity itself has been shown to contribute to systemic risk
- Levying higher taxes on over the counter derivative transactions, which as we now know increase uncertainty and systemic risk. On exchange transactions should be taxed a lower rates
- Levying lower rates on market segments that have a significant price discovery role ('price discovery' is the process of determining the price of an asset in the marketplace through the interactions of buyers and sellers).

In summary, the diversity of products in the financial markets and their contribution to the real economy, combined with the presence of different actors who trade in these financial markets, provide policy makers with a highly flexible set of tools with which to design financial transaction taxes in a way that

- Maximises revenue raised
- With the most progressive incidence
- Encourages long term investment horizons
- Discourages socially harmful or useless transactions
- Penalizes complexity and opacity

This makes the family of financial transaction taxes a highly useful set of policy tools for both raising significant additional revenues and addressing well-recognized problems in financial markets.

Conclusion

Based on this analysis the final incidence of financial transaction taxes will fall on a number of actors, in particular

- High net worth individuals invested in hedge funds
- Employees of hedge funds
- Shareholders of investment banks
- Employees of investment banks

A much smaller burden of the taxes would fall on

- Institutional investors such as pension funds
- Corporate and retail users of financial services

Overall, the financial transaction tax is likely to generate significant revenues net of any cannibalization of other forms of taxes. This effect will be enhanced especially because the primary burden of tax will fall on hedge fund investors, hedge fund managers and investment bank employees. Investment banks are very heavy users of tax planning schemes and tax avoidance strategies and often pay much lower effective rates of taxes compared for example to companies in the real economy. Hedge funds are mostly located in offshore tax havens with managers as well as the high net worth individuals who invest in them being heavy users of tax avoidance schemes. So taxing them through financial transaction taxes would both be highly efficient in terms of generating additional tax revenue and progressive in terms of its incidence, since these are amongst the highest earners in the world.

Revenues through financial transaction taxes are likely to be more progressive than any alternative form of taxation to generate an equivalent amount of tax revenue, with the possible exception of wealth taxation. Moreover, such taxes also help address some of the endemic problems associated with the current operation of financial markets. Reducing churning, excessive short-termism and volatility may generate substantial efficiency gains for the economy.

In addition to the fact that the natural incidence of the tax falls substantially on those most able to afford it, governments can take policy measures to ensure that the pass through of the additional costs of the financial transaction tax to retail customers, consumers, real economic activity and institutional investors such as pension funds is minimised.

As a next step, policy makers should introduce differential rates of taxes across different product markets using the suggestions we have put forward in the last section. We will continue to address key issues for policy makers through this series of Re-Define policy briefs

Further Reading

"A Financial Market Solution to the Problems of MDG Funding Gaps and Growing Inequality", Sony Kapoor speech at the Innovative Finance Conference hosted by the Korean Government, 2007: http://www.re-define.org/publications

"Controlling Bonuses, Taxing Transactions and Imposing Levies Complements not Substitutes", Presentation and Paper by Sony Kapoor, Ministry of Finance Netherlands, 2010

"Financial Transaction Taxes: Desirable, Feasible and Necessary", Re-Define Managing Director Sony Kapoor Testimony at the European Parliament Committee of Economic and Monetary Affairs, 2009: http://www.re-define.org/blog/2009/12/04/re-define-testimony-european-parliament-hearings-financial-transaction-taxes

Financial Transaction Taxes and the Currency Transaction Levy, Sony Kapoor speech at the Innovative Finance Conference organized by Norwegian Government, 2007: http://www.innovativefinance-oslo.no/pop.cfm?FuseAction=Doc&pAction=View...

"Steuerpolitik nach der Krise - Innovative Ansätze aus dem europäischen Ausland", Presentation by Sony Kapoor, Ministry of Finance Germany, 2009

"Taking the Next Step – Implementing a Currency Transaction Levy", David Hillman, Sony Kapoor & Stephen Spratt, Norwegian Government, 2007: http://www.innovativefinance-oslo.no/pop.cfm?FuseAction=Doc&pAction=View...

"Transaction Taxes: Raising Revenues and Stabilizing Markets", Report for a Stamp out Poverty project financed by the Co-operative Bank, Sony Kapoor, 2004

---

[i] http://www.sec.gov/answers/churning.htm , http://www.stockbrokerfraudblog.com/2009/04/churning_accounts_by_brokers_i.html
[ii] *http://news.bbc.co.uk/2/hi/business/8338045.stm*
[iii] http://www.aspeninstitute.org/policy-work/business-society/corporate-programs/cvsg/public-policy
[iv] http://www.ft.com/cms/s/0/b0ec7222-819e-11de-9c5e-00144feabdc0.html
[v] Cheung Y. and M.D. Chinn (2000) "Currency traders and Exchange rate dynamics. A survey of the U.S. market." Department of Economics, University of California, Santa Cruz, mimeo.
Hutcheson T. (2000) "Trading in the Australian foreign exchange market". Working Paper No. 107, School of Finance and Economics, University of Technology, Sidney.
Cheung Y., M.D. Chinn, and I. Marsh (2000) "How do UK-based foreign exchange dealers think their markets operates?" NBER Working Paper No 7524
[vi] Lehman Brothers Technical Trading Manual
[vii] http://www.aspeninstitute.org/policy-work/business-society/corporate-programs/cvsg/public-policy
[viii] http://en.wikipedia.org/wiki/Churning_(stock_trade), http://www.sec.gov/answers/churning.htm , http://www.stockbrokerfraudblog.com/2009/04/churning_accounts_by_brokers_i.html
[ix] www.ft.com, www.wsj.com, www.aima.org, www.hedgefundsworld.com, www.hedgefund.net etc.
[x] Over-the-counter (OTC) or off-exchange trading involves financial instruments such as stocks, bonds, commodities or derivatives traded directly between two parties. This contrasts with 'on-exchange trading', e.g. futures exchanges or stock exchanges
[xi] http://www.ft.com/cms/s/0/b0ec7222-819e-11de-9c5e-00144feabdc0.html
[xii] As reported in the Financial Times
[xiii] http://www.ft.com/cms/s/0/8c0dff78-11ba-11df-9d45-00144feab49a.html
[xiv] bonds issued by entities which have a significant possibility of default because of a deteriorating financial situation. Such bonds usually trade at big discounts to their face values
[xv] http://www.greenwich.com/WMA/in_the_news/news_details/1,1637,1847,00.html?vgnvisitor=eKOXmKaPmZk
[xvi] ibid
[xvii] ibid

[xviii] Note: While the Volker rule may not be implemented, it does signify the overall intent of regulators who are now seeking to push proprietary trading away from banks through one measure or another.

[xix] While it is true that the average holding period for these investors is shrinking and also true that they are increasingly investing through hedge funds on average the description of buy and hold still applies.

[xx] The ratio of managed mutual funds for example is about once a year and that for indexed mutual funds typically is closer to 3-5 years. For pension funds, insurance firms and sovereign wealth funds too, the portfolio is turned over only once in several years on an average

[xxi] Financial institutions for the most part pay nowhere near the headline rates of tax. They have specialized in using elaborate tax planning and tax avoidance strategies to minimise their tax liabilities. Hedge funds are often located offshore for tax advantage with more than 75% of the world's hedge funds registered in tax havens.

[xxii] Hedge funds are typically financed 50% through investments by individual investors such as high net worth individuals and about 50% by 'fund of funds' institutional investors. Typically only a third of this institutional investment comes from pension funds putting their total share in hedge funds well below 25%. (www.ifsl.org.uk)

[xxiii] http://www.ft.com/cms/s/0/d875cbc6-f571-11de-90ab-00144feab49a.html

[xxiv] www.thebanker.com

[xxv] annual reports on www.gs.com

[xxvi] compiled from profits reported on www.ft.com

[xxvii] http://www.dailymail.co.uk/news/article-1250647/10-000-City-bankers-hit-1m-jackpot-Grotesque-payouts-set-double.html

[xxviii] www.absolutereturn-alpha.com

[xxix] www.hedgefund.net and www.efinancialcareers.com