

Examining the Main Street Benefits of our Modern Financial Markets

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Executive Summary

America's vibrant capital markets are the global gold standard, fueling the financial needs of business from the smallest single-person startup to our largest public companies. They enable the dreams of American families and help make the American economy the envy of the world. In this report, we show how Main Street businesses and workers benefit from our nation's well-regulated, efficient, transparent, and modern capital markets. We also demonstrate that seemingly small changes such as a financial transactions tax can cause considerable damage far from Wall Street, harming both investors and American businesses and impeding job recovery and growth.

Over the past twenty years or so, technology and competition have dramatically reduced the cost of investing. They have made our markets fairer than ever before, giving average investors access to the best possible price when they buy and sell. This liquidity and accessibility benefits companies large and small. Stock prices are higher, enabling more investment and job creation. Mid-cap and small-cap companies have a less costly path to the public markets, and venture capitalists are more likely to provide funding as a result.

The United States currently has highly liquid and highly automated capital markets. In the wake of the recent financial crisis, some have questioned whether this increased liquidity and automation in our capital markets benefits average Americans. They argue that we should turn back the clock by imposing taxes or installing other barriers to financial transactions that would sharply reduce liquidity, returning our markets to the trading inefficiencies of the 1990s or 1980s.

The debate over transaction taxes often overlooks the important benefits of highly liquid, transparent, and fair markets to Main Street and to our national economy.

Individual investors and American families – Liquid capital markets reduce the cost of investing and provide unparalleled opportunities for American families.

- **Lower trading costs and retirement savings** – Our markets help investors manage their financial well-being and retirement needs. Lower trading costs mean investors can keep a bigger part of their nest eggs. Twenty years ago, buying a few hundred shares of stock would have taken several minutes and could have easily cost over \$100. Today, this trade can happen in seconds with the click of a mouse and is likely to cost less than \$10.
- **Increased opportunities for a broader class of investors** – Competition in the financial sector and innovative markets provide a wider variety of investment choices better tailored to investors' needs. For example, online brokerage accounts now provide powerful investing tools alongside amazingly low commissions. Exchange-traded funds offer a wide range of diversified investment alternatives at extremely low cost.
- **Greater access to consumer credit** – Capital markets facilitate the consumer's access to credit, making it possible for individuals to purchase a home or an automobile with low financing costs.

U.S. businesses – Strong and liquid capital markets directly map to greater access to capital at a lower cost and greater ability to manage risk for U.S. companies.

- **Greater access to capital at a lower cost** – Stocks, bonds, and mutual funds channel the discrete savings of millions of individuals to fund everything from large corporations to young startups. This means higher stock prices and lower bond

yields, which allows for more investment, higher growth, and greater job creation. To help create the next Apple, Microsoft, or Google, we need robust capital markets that encourage individuals and institutions to invest alongside venture capitalists in young innovative firms. Small local banks and financial institutions can use public markets to raise capital more easily and thus provide more funding to local businesses.

- **Increased transparency and improved price discovery** – Widely accessible capital markets also incorporate the maximum amount of information, giving us the best and most accurate prices.
- **Improved risk management** – Liquid futures markets mean that companies can hedge energy costs and other risks at low cost.

Global competitiveness of the U.S. economy – Our modern financial markets enable the real economy and are fundamental to our nation’s economic prosperity. It is critical that policymakers understand that our markets are increasingly global and investors and companies have a choice of where to turn for their financial needs.

- **Job creation, recovery, and growth** – Capital markets allow small firms and large firms to fund investment and expansion. This translates directly into more jobs for Americans, faster economic recovery, and sustainable, long-term growth.
- **Strong financial services sector** – The U.S. financial services industry extends far beyond Wall Street. The United States is home to more than 8,000 banks and savings institutions and more than 5,200 brokerage firms, many of them with small operations and a local presence. The industry contributes around 20% to GDP and supports more than 7.6 million jobs. One in every 15 households has someone who works in this sector.

- **Maintaining the United States as the premier global financial center** – The United States remains a global leader. But market participants will seek out firms and locations that can provide trading and other financial services at lowest cost.

While there is some disagreement on how best to do it, there is virtual unanimity on the need for broad and comprehensive financial regulatory reform. Indeed, our capital markets may require some changes to make them more transparent, democratic, and fair. Reforms should be designed to enhance the vibrancy of our capital markets, weighing the benefits of new regulation against any impediments to capital formation. Our policies should continue to encourage innovations that move our financial markets forward, allowing the average American the broadest access to financial products at low cost.

The recent turmoil has left some people angry and looking to punish Wall Street, but lashing out in anger can be expensive and counterproductive. Proposals, such as those for a significant tax on financial transactions, would fall largely on Main Street, because investors, not bankers, would bear the brunt of the tax. It would be felt not only by those who trade stocks directly, but also by those who buy and hold mutual funds for their retirement or to fund college for their children. Most importantly, a transaction tax would reduce liquidity and thereby significantly reduce stock prices, increasing the cost of capital for American firms and obstructing the nation's road to economic recovery.

During the recent turbulence, our modern equity markets performed admirably from an operational and structural standpoint. Even while stock values were dropping sharply in 2008, investors could still buy and sell as usual. When liquidity dried up and other markets froze, the equity markets continued to operate effectively and efficiently. In

short, we should not turn back the clock on the financial innovations that have made U.S. capital markets the envy of the world. Competition and innovation are the hallmarks of our financial markets and have served us well. The reforms to our markets should be measured and thoughtful, because strong and modern capital markets benefit every corner of the U.S. economy, from Main Street to Wall Street.

In the pages below, we provide more specific information about the importance of strong and modern capital markets to the overall U.S. economy. We then demonstrate that a tax on financial transactions would undermine our capital markets along many dimensions, and it is one “reform” that we should reject outright.

1. Introduction

Capital markets are critical to any financial ecosystem. The primary function of these markets is to channel capital from those who have excess funds, who are usually individuals, to those who can put the funds to productive use, which are usually corporations. Without capital markets, investors would not see their savings grow (except perhaps via interest in a bank account), and firms with good ideas would find it difficult to raise needed monies on attractive terms to fund their projects. Capital markets provide a system whereby the average working family, by contributing their savings to various innovations, can participate in these new projects and earn a tangible economic reward. This reward enables them to buy a house, send their children to college, and retire with economic security.

Modern capital markets have any number of other benefits, many of which are not apparent to the average person, or are taken for granted. Financial markets provide a price for the financial claims (stocks, bonds, derivatives, etc.) that they trade, which allows people to value their investments and make economic decisions. These prices also provide signals to companies not only about their own fortunes, but also about other segments of the markets or about the raw goods that are inputs to their businesses. For example, oil futures that are traded on exchanges or over the counter let airlines and trucking companies plan for changes in the cost of energy, one of the key inputs to their business.

Our strong capital markets are accompanied by a sturdy legal framework, which means that investors who buy shares in a particular company, or buy a mutual fund, spend little time worrying about whether the stock is real, or if the fund company will give them

what they are owed when it comes time to sell. In times past, when capital markets were less modern, financial claims were worth less the farther the owner of the claim was from the company that issued it.

Modern capital markets do all the things discussed above, and at low cost. Efficiency is a driving force in capital markets, in large part because of the tremendous amounts of money that flow through our financial system. Tiny changes in trading costs or in the costs to borrow money can make a big difference to market participants if tens of billions of dollars are involved. Market participants such as banks, brokers, institutional investors, and hedge funds are adept at seeking the lowest-cost way to hold the financial claims they desire. For example, if they wish to increase their exposure to U.S. equity markets, they could do so through any one of the following ways:

- Buy a basket of individual U.S. stocks
- Buy U.S. exchange-traded funds (ETFs)
- Buy U.S. equity index futures contracts
- Buy U.S. equity-linked debt from a domestic issuer
- Buy U.S. equity-linked debt from a foreign issuer
- Buy U.S. equity index options
- Enter into an OTC equity swap from a U.S. dealer
- Enter into an OTC equity swap from a foreign dealer
- Buy shares in a U.S. index mutual fund

Given that these choices provide almost identical economic exposures, the choices of market participants will in part be determined by liquidity and transactions costs. This is one of many reasons why proposals to tax financial transactions are so troubling.

These benefits of higher efficiency and lower costs are not restricted to the financial sector. They can have measurable effects on the real economy. As one example, for years the United States has been seen as a good place for a young company to raise money in the public markets through an initial public offering (IPO). Our low costs and transparency mean a higher valuation for the company. In fact, this led to skilled scientists and entrepreneurs coming to the United States to develop and finance their companies. As these firms became successful, they created new growth and new jobs, benefiting both the private and the public sector.

2. The evolution of modern capital markets

Competition and technological advances have transformed our capital markets over the past few decades. To illustrate how modern capital markets have evolved, consider the case of an individual who wants to purchase 1,000 shares of ABC Corporation, a large U.S.-based manufacturing company, through his broker at the best possible price.

In the not-too-distant-past, such a trade would require a full-service broker. The investor would have called the broker and instructed him to buy 1,000 shares of ABC. The investor might have first checked with the broker about the price at which ABC was then trading, which the broker could have learned by querying one of the specialized communications links in his office. Once the investor signaled the broker to go ahead, the order would have been given to a clerk at the brokerage office, who would have keyed in the order to the broker's stock execution systems. At this point, the order was likely routed to the floor of the New York Stock Exchange for execution at the post of the specialist on the exchange floor who traded ABC Corp. The price the customer would have received was

likely determined by the prices quoted in the market, any special instructions the specialist had, and any standing interest in the trading crowd. Note that the interests of the specialist and the trading crowd are unknown to those off the floor of the exchange: effectively, it is hidden trading interest. Once the trade was made, the price was relayed back to the brokerage office where the trade confirmation would be sent to the investor within three business days. For all of this, the investor would pay the broker a commission that could easily be over \$100.

The process is much different today. Although the investor may still choose to work through a full-service broker, the online brokerage option is available to him. The investor can log in to his account on a home computer, get real-time information about current prices, and place an order to buy 1,000 shares of ABC Corp by clicking a mouse. From this point on, handling of the order is completely automated. The order would be routed to the broker's computers where high-speed algorithms assess information from about 10 or 20 different venues (exchanges, Electronic Communication Networks (ECNs), dark pools, other brokers) where the order might be traded. The order might then be divided into four different pieces of 200 to 300 shares each, released into the market sequentially, and each routed to one or more of these venues for execution.¹ The broker might opt to set a limit price on the order to protect the quality of the execution, or the order could be cancelled and re-sent if market conditions changed. The broker would then receive electronic reports from the market centers indicating the quantity and price at which they had traded the ABC shares. These messages would be aggregated by the broker and a single confirmation electronically sent to the investor's computer, letting him know that he bought 1,000

¹ In 2009, the average trade size in NYSE-listed stocks was less than 300 shares, even though original orders were much bigger.

shares of ABC at a particular price. The elapsed time from click of the mouse to receipt of the electronic trade confirmation would be about one second. The commission cost is likely to be less than \$10.

In that one second, the trade was sliced into four smaller pieces, and each piece was individually negotiated on multiple trading venues. In addition to the lower commission costs, this trade would almost certainly be executed faster and at a better price than under the old mechanism described above.

Note that this trade made use of several features of modern markets that have been the cause of controversy lately. First, the order was handled and traded electronically, with the original order broken down into four smaller individual trades. The market makers on the other side of this order would have used similar high-speed algorithmic quotes to attract this order to their exchange or trading venue. The high speed and large number of orders in our markets today is a consequence of just this type of competition. Speed has risen because most order interaction is now electronic, and the improved technological infrastructure has dramatically reduced order and trade processing costs, making it is easy and cheap for brokers and exchanges to handle higher volumes and smaller trade sizes. This technological change has worked to the benefit of all investors, including individuals.

The ABC Corp order also made use of hidden liquidity in several ways. First, the customer's order was itself broken up, and portions were not displayed to the public market. Second, the broker used order routing technology to search among various market centers for the best trade. Among other criteria, an intelligent order-routing algorithm makes use of knowledge about the likelihood of hidden orders in markets. For example, the algorithm might send the ABC order to a market known for hidden liquidity, in hopes that it

might get executed at a better price than the one displayed. The broker also checked trading centers known as dark pools, which do not display bid and offer quotes to the public, to see if a better price might be available. This search for hidden liquidity is at least possible today, whereas the floor of physical exchanges in the past was for all purposes inaccessible to the retail public.

To be sure, dark liquidity and high-frequency trading (HFT) are evolving rapidly, and the Securities and Exchange Commission (SEC) is appropriately examining whether these new trading arrangements require any updates to our existing securities regulations. However, it does not help the investing public to eliminate these sources of liquidity and to return to a less sophisticated or less efficient form of trading. Brokers and exchanges have duties and obligations to their public customers that are set out in rule and statute. There will always be firms that devote large amounts of resources to trading faster or smarter than the average retail investor, and they will earn a return on their investment. This is no different than what occurred on the physical floors of exchanges. Trading may have been slower, but brokers and their large customers enjoyed, through exchange membership, time and place advantages that were unavailable to the retail public. The electronic markets we now have are much fairer than those of the past, and trading profits have been reduced to small fractions of a penny per share for those who compete to make markets in most stocks.

Short selling also plays a key function in our equity markets. It is a legitimate form of trading in which a trader borrows stock from a willing lender and then sells it in the market, hoping to buy it back later at a lower price. The short seller may be hedging another position, or may be expressing a view that the stock is overvalued. In either case,

short sellers perform important roles in aggregating information, providing liquidity to the market, improving the accuracy of prices, and preventing speculative bubbles.

3. The Main Street benefits of strong capital markets

As we have argued, the benefits of strong capital markets do not simply accrue to Wall Street. They are spread widely throughout our economy. Below we consider four specific categories of benefits that come from strong modern capital markets.

American businesses

Perhaps the biggest beneficiaries of strong capital markets are the American businesses, large and small, that use them to raise money for investment. As discussed above, strong capital markets lead to higher stock prices for firms whose shares trade in our equity markets. This is because when it is costly to trade a firm's stock, investors end up paying these higher transactions costs when they trade, lowering their total returns. To compensate for these lower returns, investors are willing to pay less for shares, leading to lower stock prices. This in turn raises the cost of capital to these firms. Strong capital markets are characterized by low trading costs and efficient share markets. Because trading costs are low, investors are willing to pay more for a firm's shares, and the cost of capital falls. The lower cost of capital, in turn, leads to more investment, growth, and jobs.

Vibrant financial markets also provide better risk sharing opportunities for firms. For example, a farmer with corn in the ground worries about low crop prices, while a maker of breakfast cereals worries about high grain prices. Each can improve their risk management if they can use agricultural futures markets to hedge the risk of corn prices.

The farmer would like to lock in the price today of corn for sale, while the cereal company would like to lock in the price of corn today as an input for their final product. Futures markets allow this hedging to occur at extremely low cost, collectively benefiting the consumers of cereal.

Capital markets provide one other quantity that is important but often underappreciated: information. Strong capital markets have high-quality prices, that is, prices with integrity that are not manipulated or distorted. These prices can convey a wealth of information to market participants. They can signal how the market is responding to various investment opportunities the firm has undertaken. They provide information about competitors, or substitutes for a firm's projects. Through the market for Treasury debt, firms are able to form an estimate of future interest rates. As the interest rate is one of the most important determinates of the level of corporate investment, this allows reliable plans to be made, resulting in an efficient use of corporate resources.

Individual investors and American families

As discussed above, investors are the source of raw capital that flows to corporations. In return for providing this capital, investors expect to earn a return based on the risk of their investment. Strong capital markets provide investors with a wide array of products in which they can invest. These products can be tailored to suit the needs of investors and their particular financial situation.

For example, long-term investors saving for retirement may want to buy and hold stocks for a long period of time. For such investors, a low-cost index fund may be perfect. Other investors who engage in research about individual firms may wish to actively trade

the shares of those issuers, and thus an online brokerage account may be optimal. Still other investors, who perhaps are wealthy and in a high marginal tax bracket, may wish to invest in municipal bonds to enjoy the tax exemption benefits. The more vibrant the capital markets, the wider the variety of investment choices that can be produced.

In the United States, a variety of investment choices has become increasingly important over the past 20 years as firms have moved from defined benefit to defined contribution plans for their employees. Individual investors now have more responsibility than ever for their own financial well-being. Providers in the capital markets have responded with a broad range of products to help solve these problems for investors. ETFs, target-date mutual funds, and retirement annuities all aid in retirement planning. There are savings products tied to inflation, or even to the growth in college tuition rates.² And though they have yet to reach the financial mainstream, there is hope for a new class of financial products tied to housing prices that would let current homeowners hedge their housing exposure and would allow prospective home buyers to participate in the price appreciation that occurs before they can afford their first house.

Among developed countries, the United States is at the top in terms of the breadth of equity market participation.³ Furthermore, our products tend to be of high quality and low

² These are generally offered by special purpose state authorities. For example, the U. Plan, which is offered by the Massachusetts Educational Financing Authority, locks in current tuition and mandatory fee rates at over 80 Massachusetts institutions.

³ See Guiso, Sapienza, and Zingales (2008) for country comparisons. According to the 2007 Survey of Consumer Finances, 51.2% of Americans hold stock either directly or indirectly.

cost.⁴ This has allowed the investing public to directly enjoy the benefits of the capital markets, and helped them meet basic life-cycle savings needs that all investors have.

Financial services sector

The financial services sector is a vibrant part of the U.S. economy, contributing 20% of our GDP in 2008. In all, there are more than 7.6 million jobs in the financial sector of our economy, meaning that one in every 15 households has someone who works in this industry.⁵

The financial services industry is not just Wall Street, and it is not located only in New York City. The United States is home to more than 8,000 banks and savings institutions and more than 5,200 brokerage firms, many of them small operations with a local presence.⁶ It is often the local bank or financial firm that is most attuned to the needs of its customers. Without strong markets, these firms would not be able to source capital or manage the risks that come from working in the local economy. For example, secondary mortgage markets have allowed small banks to recycle their capital and efficiently fund the housing finance needs of local homeowners. Debt markets allow these firms to raise capital beyond their local deposit base, and to make loans to local businesses that might not attract the interest of larger money center banks. In addition, industrial corporations have finance

⁴ For example, Khorana, Servaes, and Tufano (2009) find that U.S. mutual fund fees are lower than those in nearly every other country. The trading cost analytics firm ITG finds similar results for U.S. institutional trading costs ("ITG Global Trading Cost Review," 2009Q3).

⁵ GDP industry breakdowns are from the April 28, 2009, Bureau of Economic Analysis release. Employment figures are for the financial activities supersector as of November 2009 (source: Bureau of Labor Statistics). Total U.S. households are U.S. Census Bureau estimates for 2009.

⁶ Federal Deposit Insurance Corporation as of September 2009, and SEC Broker-dealer information report of February 1, 2010.

departments that manage the relationship between a firm's cash needs and the external capital markets. Strong capital markets allow all of these entities to participate in the financial sector of our economy, and in turn to fund local businesses.

U.S. global competitiveness

The modernity and efficiency of our capital markets directly promote the global competitiveness of the United States. Financial markets deal with the flow of money, and as such, financial services are both fungible and fleeting. Unlike smokestack industries that have large investments in plants and equipment, financial services primarily concern intellectual capital and the money that follows it. Our financial markets have been global for some time from the point of view of large corporate issuers and financial intermediaries. Such firms are able to find the best terms of trade anywhere in the world, using the aftermarket to alter things like currency or tenor to suit their needs.

There is no reason why a U.S. firm needs to use a U.S. bank for a global equity offering, or why the offering needs to be conducted in the United States. It could just as easily use a British or Swiss firm to lead the deal, and that decision could be made in a number of hours. These decisions are often based on the terms offered, and costs and margins can be razor thin. Small differences in efficiency, taxation, and fees in respective markets can mean the difference between winning and losing a deal.

At the moment, U.S. capital markets are the most liquid in the world. For example, Figure 1 compares institutional equity trading costs around the globe, including both direct costs (commissions) and indirect costs (market impact costs). It shows that the United States is the leader in providing robust, deep equity markets, but that other countries are

catching up. In Europe, for example, the recent MiFID (Markets in Financial Instruments Directive) initiative has sparked intense competition among various national stock exchanges and is encouraging new entrants. Already this has made European exchanges much fiercer global competitors.

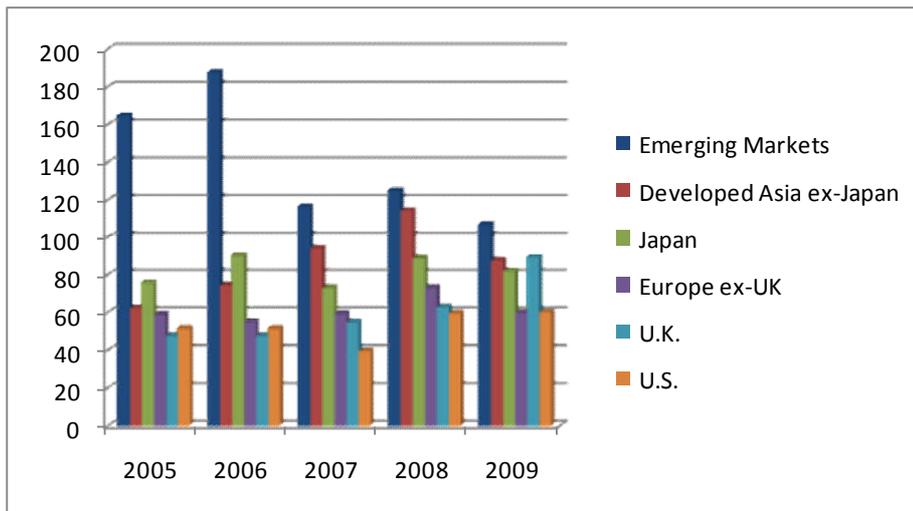


Figure 1. Average institutional trading costs (in basis points) across six geographic regions. Includes both commissions and market impact costs. Figures for 2009 are through the end of the third quarter. Source: ITG, Global Trading Cost Review, December 2009.

It is clear that global competitors are far from passive in taking business from other countries, and American companies and regulators cannot rest on our capital markets successes. The NYSE and NASDAQ have announced that, in part to compensate for the paucity of IPOs in the United States, they will actively court new firms in China that are ready to come to market by encouraging them to do IPOs in the United States.⁷ Even regulation in some jurisdictions has international competitiveness as an explicit goal. For example, the Bank of England is charged with promoting London as a global financial

⁷ David Barboza, "Sparse U.S. Listings Prompt Rush on China's IPOs," *New York Times*, February 11, 2010.

center by enhancing the “efficiency and effectiveness of the [U.K.’s] financial sector, with particular regard to international competitiveness.”⁸

The United States, and particularly New York, is a global financial center that has brought wealth, human capital, growth, and jobs to this country. It has enabled our real economy by providing funding for investment in new and growing industries. It is a resource to be nurtured and managed with an eye toward the benefits it conveys to our population.

4. Why cost is so important to strong capital markets

As discussed above, capital markets are very sensitive to the costs associated with transactions. With so many dollars flowing through the financial system, small percentage changes in costs, when multiplied by these enormous quantities, can lead to very large dollar charges. It is not just the magnitude of these costs that is important, but the question of who bears them.

Consider the case of an entrepreneur who has issued stock to start a new business making widgets. Given the risk of the business, equity holders expect a 10% return on their invested capital. Suppose further that the government, upset about the behavior of widget management, levies a tax on widgets that must be paid by the widget maker. What happens? If he can, the widget maker simply raises the price of the widgets to cover the incidence of the tax, thereby passing on the tax to customers. If he cannot do this, then profits will fall, but this cost will be borne by the shareholders who see the price of their stock fall because the widget maker’s profits fall, thereby maintaining the 10% required

⁸ “Financial Stability Analysis in the UK,” speech by FSA chairman Callum McCarthy to the IMF-FSC/FSS Macprudential Supervision Conference, Korea (November 8, 2006).

return on capital. In one case, the cost is passed on to consumers; in the other case, the cost is given to shareholders.

Things are much the same in the financial sector. If a change imposed on financial intermediaries causes costs to rise, the increase is either passed on to their customers in the form of new fees, or reflected in the stock price of the firm. Note that if it becomes more expensive to trade the shares of a given firm, that firm's stock price will likely fall to compensate investors for the higher trading costs, keeping expected returns constant. With a lower stock price, the firm is less able to raise capital and may opt not to take on profitable projects with insufficiently high rates of return. This comes back full circle in the form of lower economic growth and fewer new jobs.

It is important to also understand that costs applied to one segment of the financial marketplace often simply cause business to shift to other forms where there are lower costs. For example, if a government were to impose a transaction tax on stock trades, yet have no transaction tax on debt trades, then this would at the margin cause issuers to favor debt financing over equity financing. Such additional leveraging may itself be harmful from a policy point of view. If the government responded by taxing both debt and equity trades, investors might choose to get their risk exposure via the swaps market instead, favoring the use of derivatives over cash transactions. In such a world, instead of buying a block of stock from a willing seller and paying a tax, the buyer would buy an equity swap from the seller, and the stock would stay in place. Though this avoids the incidence of the tax, it has the unintended consequence of creating what is known as counterparty risk over the future performance of the two swap participants. Finally, if the domestic government were to try to tax over-the-counter swaps, which would be difficult to do, the positions would likely be

booked into overseas affiliates of the traders. Here again, there is an unintended consequence. Business is driven offshore, and only the largest and most sophisticated firms with global reach are able to minimize the tax, leaving the brunt to fall on small- and medium-sized market participants.

U.S. markets are some of the most efficient capital markets in the world, which is one of the reasons they are so large and robust. In a world with innovative market participants and adaptive technology, business could rapidly migrate to another jurisdiction were costs to rise and trading terms in the United States to become unattractive.

5. Transaction taxes would cause significant harm to our capital markets

Despite the fact that capital markets are very sensitive to changes in costs, a transaction tax on financial instruments is currently under discussion in the United States. In fact, multiple transaction tax bills have been introduced in the current legislative session. For example, the current proposal by Sen. Harkin and Rep. DeFazio would subject most stock market transactions in the United States to a tax equal to 0.25% of the transaction value. Trades in other financial assets would also be subject to tax at varying rates. The problem is that this would not be a tax on Wall Street, as advertised by its supporters. Most Americans with any level of savings would be directly affected by such a tax.

A 0.25% transaction tax sounds modest, but it would sharply increase investors' trading costs. If a retail investor wants to trade 100 shares of a stock with a \$50 share price, that investor typically pays a commission of less than \$10, and pays \$1 to \$2 in the form of a bid-ask spread. The current SEC transaction fee of 0.00127% would add \$0.06 to the

investor's tab. A 0.25% transaction tax would add an additional \$12.50 to that transaction, more than doubling its cost.

The cost increases would be even worse for a typical mutual fund held by Main Street investors. Right now, a mutual fund probably pays a penny or two in bid-ask spread for each \$50 share. It might pay an additional penny per share in commissions. For this mutual fund, a 0.25% transaction tax would mean an extra 12.5 cents per share, raising its trading costs five-fold. In addition, transaction taxes will affect the returns of mutual fund investors, even if the investors do not buy or sell their mutual fund shares.

Since the early 1970s, technology, competition, and smart regulation have helped shrink trading costs to a tiny fraction of their earlier levels. For example, Figure 2 shows that overall average commissions on equity trades in the United States have plummeted from about 1.46% of the amount traded in 1980 to 0.11% in 2006, the last year for which data are available. There is a similar trend for bid-ask spreads.

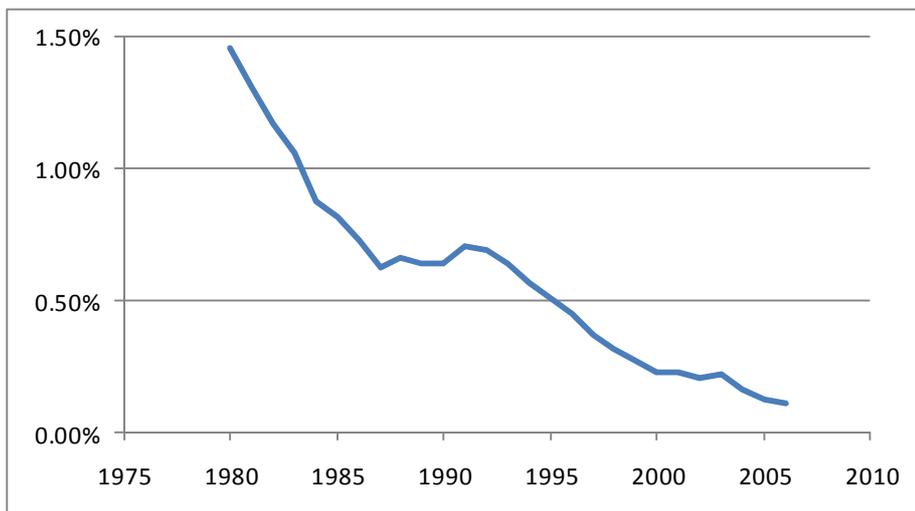


Figure 2. Average commissions and markups on U.S. equity trading, expressed as a percentage of volume transacted. Source: French (2008).

Most transaction tax supporters willingly admit that a transaction tax of 0.25% would turn back the clock, taking trading costs back to levels not seen since the 1980s.⁹ Just as most of us would not trade in our MP3 players for an 8-track tape player, neither would we want to take trading costs back to 1980s levels. If that happened, we would probably see stock prices head down toward 1980s levels.

Why would a transaction tax cause stock prices to fall? Mutual fund investors and other investors have to pay the tax year after year. The present value of the repeated tax can be quite substantial, and it is capitalized into prices. To quantify the effect, assume for simplicity that all investors hold a mutual fund that trades its portfolio once per year and has a dividend yield of 2.00%.¹⁰ In a world with a 0.25% transaction tax, the dividend yield net of the tax would be only 1.75%. Investors would lose one-eighth ($0.25\% / 2.00\%$) or 12.5% of their cash flow each year, so the transaction tax would be equivalent to an additional 12.5% tax on dividends. Of course, investors wouldn't sit still while the government takes this cut. If government reduces investor returns via a transaction tax, investors would not be willing to pay as much for stocks. In this example, it is easy to see that investors would drive down stock prices by the same 12.5%, restoring the 2.00% net dividend yield they require. Instead of a Dow Jones Industrial Average at its current 10,000 level, that means a Dow at 8,750, one-eighth lower than it otherwise would be.

The stock price effects could actually be even worse than this example suggests.

Academic researchers have spent the past decade exploring the link between liquidity and

⁹ Dean Baker, "Responses to Criticisms of Taxes on Financial Speculation," Center for Economic and Policy Research, January 2010.

¹⁰ The indicated annual dividend yield on the S&P500 at the end of 2009 is 2.00%. This turnover assumption is conservative. Morningstar reports that the average turnover ratio for managed domestic stock funds is 130%. (Source: Stephan Abraham, "Turnover Ratios Weak Indicator of Fund Quality," Investopedia.)

stock prices. The uniform conclusion is that liquidity is valuable and is reflected in stock prices.¹¹ Unfortunately, a broad-based transaction tax would decimate liquidity. In today's equity markets, liquidity is provided electronically by very competitive market-makers. These market-makers post bid and ask prices that are only a penny apart for most stocks. These market-makers typically hold a stock position for only a few minutes, so it sounds like they are the perfect targets for a transaction tax. However, that short holding period provides an important bridging function to the markets. Suppose that Newton arrives at 10 a.m. and wants to sell his Apple shares. Market-makers are willing to buy shares from Newton in the expectation that another investor will soon arrive on the other side. If market-makers are assessed the transaction tax, they won't be willing to provide this market-making service for a penny. They will need to earn at least the amount of the transaction tax, which as we saw in our earlier example, would be 12.5 cents under current proposals for a stock with a share price of \$50. What will happen? Bid and ask prices would move much further apart. It would cost more to buy and sell equities, and it might take more time to find a willing party to take the other side of the trade. Either way, markets would become less liquid, and Main Street investors would bear the burden of the resulting higher trading costs, either directly or via mutual funds. Furthermore, investors would pay less for stocks that are less liquid, and the resulting lower stock prices would make capital that much more expensive for American companies.

Transaction taxes may also worsen stock market volatility. Transaction tax proponents often suggest that current levels of trading activity must be creating excess volatility in stock prices, and this volatility can be reduced by throwing sand in the trading

¹¹ A good summary is Amihud, Mendelson, and Pedersen (2005).

gears via a transaction tax. This is an appealing argument—less trading means less volatility—but it does not match the data. In fact, Jones and Seguin (1997) and others find that transaction taxes increase volatility. The intuition is that if trading is expensive, nobody will act to keep prices at their correct levels. Stock prices wander further away from fundamentals before anybody has an economic interest in bringing them back into line. Thus, it isn't surprising that transaction taxes might increase volatility.

The current transaction tax bill has a beguiling title, the “Let Wall Street Pay for the Restoration of Main Street Act of 2009.” One should read this title with skepticism, as this is a tax that will fall on Main Street as well as Wall Street. It may make Wall Street change some of its trading strategies, but if a trading strategy becomes uneconomic as a result of the tax, a Wall Street bank will simply abandon the strategy and avoid the tax. Ultimately the transaction tax is borne by Main Street investors, who cannot (or at least should not) simply abandon the stock market. An investor pays the tax when it comes time to sell some stock to come up with the down payment on that first house or that first college tuition payment. After a while, an investor may decide that he or she is not willing to bear the risks of the stock market. He or she will pay the tax upon selling the equities. Mutual fund investors will bear the tax whenever their portfolio manager trades. Even index funds sometimes have to trade, and in that case index fund investors would bear the tax burden. In fact, the Investment Company Institute (ICI) estimates that a transaction tax would increase the annual expenses incurred by index fund investors by one-third.¹²

Given the myriad effects of a transaction tax, it is not surprising that other countries have introduced transaction taxes and then repealed them a short time later, once all the

¹² ICI, “ICI Research and Background on Transaction Tax,” December 16, 2009.

effects became apparent. Sweden provides an instructive data point. In 1984, Sweden introduced a 1% transaction tax, and the tax rate doubled two years later. Almost immediately, about 60% of trading volume in the most active Swedish stocks moved from Stockholm to London. The Swedish stock market fell by 5.3% when the tax was initially announced. In fact, owing to the stock price declines and the reduced level of trading, Swedish capital gains tax receipts actually fell by more than the amount of transaction tax collected. Thus, the transaction tax even failed to raise revenue, never mind its other negative effects.¹³ Sweden soon realized its mistake and eliminated its transaction tax in 1991. But the country never regained its previous share of trading in Swedish stocks. Much of the trading simply stayed in London, along with many related jobs. Since 1990, other countries have also eliminated their transaction taxes, including Denmark, Germany, Italy, Japan, Portugal, and Singapore.¹⁴

The United States also had a small transaction tax from 1914 until 1966. The rate varied over time, but was 0.04% on the transfer of stocks during the 1960s. The United States eliminated the tax because there was a strong bipartisan consensus that it was damaging the global competitiveness of our capital markets. It was one of the first steps in the 1960s and 1970s to bring down the cost of trading stocks and other financial assets, and that decline in costs helped spark a sustained rise in the U.S. stock market. We would strongly urge that the United States not press rewind and be forced to relive this particular part of our financial history in reverse.

¹³ Umlauf (1993) has a more complete discussion of the Swedish transaction tax experience.

¹⁴ Pollin, Baker, and Schaberg (2003).

6. Conclusions

How can we make the U.S. capital markets better? Most of the recent failures were in the over-the-counter markets, not the more exchange-oriented equity and futures markets. The U.S. equity and futures markets are not broken, and they do not need much fixing. The existing rules in these markets have worked quite well, and of course we need to continue our vigilance in keeping criminal activity, manipulative behavior, and other malfeasance out of our capital markets. But beyond rooting out bad actors, our policies should simply be designed to encourage productive competition between financial market service providers. The process of relentless competition has sharply improved the efficiency of our capital markets and lowered costs over the past few decades, and it will continue to do so. Markets are better and stock prices are higher as a result. We do not need steps like a transaction tax that will undo the progress of the past thirty years in wringing inefficiencies out of our capital markets.

Of course, policy requires a balancing act, and by definition this balance is dynamic. Policies that work well today could be costly or risky tomorrow. Thus, we need a set of capital markets policies that encourages appropriate financial innovation, access to the capital markets by the broadest possible range of investors, and an ability to change and adapt. We should never lose sight of Main Street, where our ultimate investors work and reside. But we should also realize that our capital markets have brought tremendous benefits to Main Street investors, and we should work to ensure that we continue to have the very best, modern capital markets delivering these benefits to investors across America and throughout the world.

References

Amihud, Yakov, Haim Mendelson, and Lasse Heje Pedersen, 2005, "Liquidity and Asset Prices," *Foundations and Trends in Finance*, 1(4), 269–364.

French, Kenneth R., 2008, "The Cost of Active Investing," *Journal of Finance*, 63(4), 1537–1573.

Guiso, Luigi, Paola Sapienza, and Luigi Zingales, 2008, "Trusting the Stock Market," *Journal of Finance*, 63(6), 2557–2600.

Jones, Charles M. and Paul J. Seguin, 1997, "Transaction Costs and Price Volatility: Evidence from Commission Deregulation," *American Economic Review*, 87(4), 728–737.

Khorana, Ajay, Henri Servaes, and Peter Tufano, 2009, "Mutual Fund Fees Around the World," *Review of Financial Studies* (forthcoming).

Pollin, Robert, Dean Baker, and Marc Schaberg, 2003, "Securities Transaction Taxes for U.S. Financial Markets," *Eastern Economic Journal*, 29(4), 527–558.

Umlauf, Steven R., 1993, "Transaction Taxes and the Behavior of the Swedish Stock Market," *Journal of Financial Economics*, 33(2), 227–240.