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A financial transaction tax would help ensure Wall Street works for Main Street

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Summary

What this report finds: A well-designed financial transaction tax (FTT)—a small levy placed on the sale of stocks, bonds, derivatives, and other investments—would be an efficient and progressive way to generate tax revenues. Gross revenues from a well-designed FTT would likely range from $110 billion to $403 billion. And net revenues (including offsets from reduced income, payroll and capital gains taxes, and increased borrowing costs) would likely be substantially higher than some other recent estimates indicate. This is mainly because other estimates' assumptions about the volume of financial transactions an FTT would crowd out are too high, and because an FTT is likely to redistribute rather than reduce overall incomes. Regardless of the level of revenues raised, an FTT would be a win-win for the U.S. economy. Higher revenues would result in more funds for social insurance programs and much-needed public investments. Lower revenues would be the result of the FTT crowding out financial transactions of little value to the U.S. economy. This would boost Americans' incomes through lowering fees on financial services, such as the management of 401(k)s and other accounts.

Why this matters: As the U.S. economy continues to recover from the 2008 financial crisis and the ensuing Great Recession, an FTT would help ensure the financial sector compensates other sectors of the economy (particularly U.S. households) for the damage the sector inflicted. Through generating tax revenues, decreasing the fees Americans pay on their investments, and shrinking unproductive parts of the financial sector, an FTT would help Wall Street work for Main Street.

Introduction and key findings

The financial crisis of 2007–2009 and the ensuing bank bailouts have led to widespread calls to ensure a "fair and substantial contribution" from finance for the damage this sector inflicted.[1] In addition, given that the key rationales

for a large financial sector are risk-management and macroeconomic stability, the crisis inspired questions about whether the financial sector's decades-long pre-crisis expansion was beneficial for the potential growth and efficiency of the American economy.

Given the twin goals of raising revenue and ensuring that financial transactions actually do provide good value to the economy, the idea of a financial transactions tax (FTT) has recently gained popularity.

A number of bills have been put forward in Congress to institute an FTT, most recently the Inclusive Prosperity Act introduced by Rep. Keith Ellison (D-Minn.). Rep. Ellison's bill would tax the sale of stocks at 0.5 percent, bonds (with maturity over 60 days) at 0.1 percent, and derivatives and other investments at 0.005 percent. In 2014, Rep. Chris Van Hollen (D-Md.)—a member of the House Democratic leadership—introduced a bill that included a transactions tax. Sen. Bernie Sanders (I-Vt.) has introduced an FTT proposal in the Senate that mirrors Ellison's House bill. In addition, a centerpiece of Sen. Sanders's presidential campaign was an FTT that would fund an expansion of debt-free college tuition.

At the same time that the FTT has gained some momentum in policy and political spheres, recent estimates of an FTT's potential revenue-raising capacity have been smaller than those of earlier studies. Early estimates of the potential revenue that could be raised with an FTT frequently exceeded 1 percent of gross domestic product (GDP) annually (see, for example, Pollin, Baker, and Schaberg 2003). But in a series of papers for the Tax Policy Center (TPC), Burman et al. (2016) and Nunns (2016) report much lower estimates. These recent estimates are not trivial—Burman et al. (2016) find an FTT could raise between $50 billion and $70 billion annually (or between roughly 0.25 and 0.4 percent of GDP). But they *are* significantly lower than many previous estimates. Besides revenue estimates, Burman et al. (2016) also provide a good accounting of the potential pros and cons of the economic consequences of an FTT. The potential downsides they highlight, as well as the smaller revenue estimates, have led too many to wield their reports as clarion calls against the desirability of an FTT. This is not a warranted conclusion.

This report examines some of the issues raised by the prospect of an FTT. Its principal finding is that the essential logic for supporting an FTT remains strong: It would raise revenue and crowd out transactions that direct income to the financial sector without providing much boost to most households' living standards.

Specific findings include:

- FTTs hold much promise as significant and progressive revenue raisers, and some recent revenue estimates may be excessively pessimistic. We find that potential gross revenues from an FTT range from $110 billion to $403 billion (depending on the responsiveness of financial transactions volume to costs). This estimate is widely agreed upon.
    - There may be some revenue offsets to this gross amount, but these offsets may be overestimated, and the overall revenue potential of an FTT is considerable.
- One key parameter for how much revenue an FTT can raise is how responsive the volume of financial transactions is to changes in transaction costs. The higher this

responsiveness—or *elasticity,* in economic jargon—the more trading volumes are crowded out by an FTT and the less revenue it raises.

  - There is ample reason to think financial transaction volume will fall less in response to an FTT than Burman et al. (2016) allow. Current elasticity estimates are based on FTTs that are not particularly well-designed to discourage arbitrage among asset classes or among national trading exchanges.
  - If an FTT is well-designed to avoid this type of tax avoidance among asset classes, and if a U.S. FTT spurs further progress in other countries' adoption of FTTs (as is happening in the European Union), then there is potential to reduce the scope for financial transaction crowd-out and to boost potential FTT revenue.

- The Burman et al. (2016) estimates of the *net* revenue potential of an FTT are also likely too pessimistic. This is because they assume too-high revenue offsets stemming from reduced national income from an FTT, as well as increases in government borrowing costs. The offsets estimated by Burman et al. (2016) depend largely on viewing the financial sector as efficient, with each transaction delivering value. If the financial sector (or at least the marginal transactions crowded out by an FTT) is not efficient and value-creating, then these offsets to the gross revenue collected by the FTT could be considerably smaller.
- Much evidence strongly suggests that the marginal value of financial transactions in the U.S. economy are near-zero, or even negative. If this is true, then U.S. households would strongly benefit from an FTT even if it raised very little revenue. In fact, in the case of zero marginal value of financial transactions, every dollar "crowded out" from financial transactions by an FTT would boost American households' incomes one-for-one. Alternative ways of extracting a "fair and substantial contribution" from finance (a financial activity tax, or FAT, for example) could in theory raise as much revenue as a well-designed FTT. However, the FTT currently is much better-developed as a concrete policy and has greater political momentum. Further, it is far from obvious that a FAT could be better-targeted at displacing low-value transactions than an FTT while still raising an equivalent amount of revenue.

Background

As the name suggests, a financial transaction tax is a tax levied on the transfer of ownership of designated financial assets. Depending on the design, these taxes can be levied on the transfer of any number of assets, including stocks and equities, bonds, international currencies, and derivatives and securities (such as futures, options, and credit default swaps).

FTTs generally levy a tax that is a percentage of the value of the traded asset, though they can also take the form of a flat fee applied to each transacted asset. FTTs can be assessed on assets in their original issuance, such as the stocks in an initial public offering, on trades in the secondary market, or on both. FTTs may be limited to trades on official exchanges, "over-the-counter" trades transacted directly between two parties, or both. As a general rule, both to prevent tax avoidance and to boost efficiency of collection, FTTs

are most effective when applied to as broad a base as possible instead of to particular classes of assets or financial marketplaces.

The case for hoping that an FTT with a small base rate can raise substantial revenue rests on the utterly enormous volume of financial transactions that take place in the U.S. economy in a given year. **Table 1** shows the volume of financial transactions by type for 2015. The table also shows transaction costs and the potential revenue that would have been raised under an FTT rate of 0.5 percent on stock trades, bond trades, and options premiums, and 0.05 percent on the notional value of futures, swaps, and foreign exchange.[2]

Table 1

Transactions costs, volume, and revenue estimates from a financial transaction tax

Financial transaction type	Transaction costs	Volume	FTT rates	Revenue, by elasticity (billion of dollars)				Revenue, by elasticity (% of GDP)				Volume reduction times transaction costs, by elasticity (billions of dollars)			
				-0.75	-1	-1.25	-1.5	-0.75	-1	-1.25	-1.5	-0.75	-1	-1.25	-1.5
Equities	0.14%	45,969	0.5%	$74.3	$51.0	$35.0	$24.0	0.41%	0.28%	0.19%	0.13%	$44.32	$50.96	$55.51	$58.64
Bonds	0.08%	183,639	0.5%	$215.4	$132.8	$81.9	$50.5	1.20%	0.74%	0.46%	0.28%	$118.87	$132.83	$141.44	$146.75
Options premiums	0.28%	22,860	0.5%	$53.4	$41.5	$32.2	$25.0	0.30%	0.23%	0.18%	0.14%	$34.67	$41.48	$46.77	$50.88
Foreign exchange	0.01%	321,196	0.05%	$38.9	$24.3	$15.1	$9.4	0.22%	0.14%	0.08%	0.05%	$21.66	$24.27	$25.90	$26.91
Futures	0.001%	702,225	0.05%	$16.9	$6.1	$2.2	$0.8	0.09%	0.03%	0.01%	0.00%	$5.95	$6.14	$6.21	$6.24
Swaps	0.001%	159,708	0.05%	$3.8	$1.4	$0.5	$0.2	0.02%	0.01%	0.00%	0.00%	$1.35	$1.40	$1.41	$1.42
Income and payroll tax offsets				$100.7	$64.3	$41.7	$27.5	0.56%	0.36%	0.23%	0.15%				
Capital gains revenue loss				$64.4	$41.1	$26.7	$17.6	0.36%	0.23%	0.15%	0.10%				
Increase in federal borrowing costs				$133.1	$77.4	$45.3	$26.6	0.74%	0.43%	0.25%	0.15%				
Gross total				$402.7	$257.1	$167.0	$109.9								
Net total				$104.6	$74.3	$53.2	$38.3								

Note: Rates in the table are average rates. The precise rates depend on factors such as the average time to maturity of bonds to ensure that prospects for arbitraging tax liability away by shifting among financial assets are minimized.

Source: EPI analysis of Burman et al. (2016), and of data from NYSE Market Data Factbook, NASDAQ Monthly Market Summary, Securities and Financial Markets Association, Bank of International Settlements Derivatives Statistics, and data provided by James Nunns

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Table 1 will be referred to throughout the rest of the paper, but what we will highlight now is the volume of transactions. In 2015, the volume of equity transactions alone was over $45 *trillion*, while derivative transactions (foreign exchange, futures, and swaps) totaled well over $1 *quadrillion* in volume.[3] However, because transaction costs on derivatives are vanishingly small (generally averaging between 0.01 and 0.001 percent), even a modest financial transactions tax increases total costs dramatically and could potentially lead to a very large reduction in the volume of financial transactions.

How much revenue would an FTT raise, and how progressive would it be?

Early analyses of FTTs (for example, Pollin, Baker, and Schaberg 2003) estimated very large revenue possibilities from a well-designed tax. Pollin, Baker, and Schaberg (2003) estimated that an FTT with a base rate of 0.5 percent on stocks (with rates on other assets set so as to minimize tax avoidance arbitrage) could raise between $66 billion and $132 billion in 1997, or 0.8 to 1.6 percent of overall GDP. The range in revenue they identified stemmed from assuming that the tax displaced between 0 to 50 percent of financial transactions.

Recently, however, Burman et al. (2016) and Nunns (2016) released studies indicating significantly smaller revenue estimates, even as the volume of transactions had grown substantially over the past 15 years. The much smaller revenue estimates from Burman et al. (2016) stem largely from two influences: rapidly falling transaction costs and transactions' much higher assumed responsiveness to changes in these costs.

Fast-falling transaction costs

Jones (2002) documents an extremely large fall in one component of financial transaction costs: the bid/ask spread.[4] For equities, he finds a fall of roughly 70 percent in these transaction costs since 1980. Matheson (2011) cites data suggesting that bid/ask spreads on the New York Stock Exchange (NYSE) fell from roughly 1.3 percent in the mid-1980s to 0.1 percent today. Both authors identify more-advanced technology as behind the rapid reduction in many aspects of transactions costs in recent decades.

All else equal, a given FTT tax rate will crowd out more financial transactions the lower transactions costs are. The intuition is fairly simple: If transaction costs are 1 percent of the volume of a given transaction, then an FTT of 0.5 percent will boost the total costs of trading (i.e., including tax) by 50 percent. But if transactions costs are 0.5 percent, then an FTT of 0.5 percent will double (raise by 100 percent) total costs.

For a given responsiveness (or *elasticity,* in the jargon of economists) of trading volume to trading costs, this means that a given FTT will displace more transactions the lower initial trading costs are. This displacement of transactions means, in turn, that the revenue generated by an FTT on the remaining transactions will be lower. Thus, the rapid fall of

transaction costs in recent years means that older FTT revenue estimates may well need to be updated.

High assumed elasticity

As noted before, previous revenue estimates often showed the potential impact of an FTT that displaced between 0 to 50 percent of financial transactions. The rapid decline in transaction costs noted above partially explains why the recent Burman et al. (2016) estimates are substantially lower than these older estimates. Another portion of the discrepancy stems from Burman et al.'s (2016) assumptions about the elasticity of trading volume to trading cost being substantially higher than the (implicit, at least) assumptions used by first-round FTT estimates. Burman et al. (2016) use a range of estimates from 1 to 1.5 for the elasticity of trading volume, and settle on the midpoint (1.25) as their preferred estimate.[5] The first thing to note about elasticities in regard to FTT revenue modeling is that small changes have simply enormous effects. This can be seen in Burman et al.'s (2016) results. For a given rate, the total revenue can more than *triple* when the elasticity is moved from 1.5 to 1.

The intuition for this is straightforward. When pre-tax trading costs are very low, even a modest (say, 0.34 percent) FTT can increase total post-tax trading costs significantly. For example, Burman et al. (2016) estimate that a 0.34 percent FTT would increase transaction costs for equities by roughly 77 percent. This in turn reduces the volume of transactions by the same amount if the elasticity is 1, making the volume of transactions post-tax about 23 percent as large as before the tax. If the elasticity rises to 1.5, then this 77 percent increase in transactions *costs* translates into a 90 percent decline in transaction *volumes*, and the volume of remaining financial transactions post-tax is only 10 percent as large as before the tax. This means that the tax base for an elasticity of 1 (23 percent of pre-tax transactions) is *more than double* the size of the tax base for an elasticity of 1.5 (10 percent of pre-tax transactions). And, the closer to a full crowd-out of transactions that one gets, the bigger the proportional difference in revenue raised when comparing elasticities.

In the revenue estimates we provide that are shown in Table 1, an elasticity of 0.75 implies a reduction in trading volume of 87 percent, while an elasticity of 1.5 corresponds to a reduction in trading volume of 97 percent. This means that the post-tax volume of financial transactions (or, the tax base of the FTT) is *four times larger* (13 percent relative to 3 percent) at an elasticity of 0.75 relative to an elasticity of 1.5.

Will trading elasticities really never be lower than 1?

In retrospect, the first-round estimates of potential FTT revenue look potentially too large to necessarily apply today, largely because of the rapid fall in transaction costs. But the Burman et al. (2016) estimates might well be excessively pessimistic. The authors note that the estimates of elasticities in the extant research literature span a wide range. However, it is important to note that the span of estimates is based largely on *existing* financial

transaction taxes that are in place around the world. These existing taxes are not, however, particularly well-designed to maximize revenue. They tend to be idiosyncratic and, crucially, not broad-based. These taxes tend to target quite specific financial assets and apply to often-small financial markets. They often have large carve-outs for specific financial actors. All of these considerations will increase measured elasticities, as market actors will be able to avoid the tax through simple substitution of one financial asset for another, or by moving venues of financial transactions.

To see this, let's look at some examples. First, consider the U.K. stamp duty, which is currently set at 0.5 percent. This FTT is fairly limited in scope, applying only to stocks and physically exercised stock options in U.K. companies. The narrow focus creates an incentive to substitute trading in derivatives for the trading of stocks, and indeed this is what occurs through the growing use of contracts for difference (Burman et al. 2016). However, even with the narrowed base due to lack of taxation on derivatives, the stamp duty reserve tax *still* brought in £2.6 billion in 2014–2015, or about 0.14 percent of U.K. GDP.[6] In Table 1, that's around the percentage of GDP we would expect from equities in the United States *if* the elasticity were as high as 1.5. And it's not necessarily the case that this is being driven by differences in the relative size of financial sectors. In 2012, financial and insurance output made up 6.6 percent of nominal U.S. gross value added, versus 7.0 percent in the U.K.[7]

In short, an eminently avoidable tax on U.K. equities can bring in revenues equal to about 0.14 percent of U.K. GDP, which is near our revenue estimate as a percentage of GDP for U.S. equities at the *high* elasticity. Given this, if an FTT is well-structured to minimize tax arbitrage within a country, and if a U.S. FTT were accompanied by the adoption of FTTs in much of the developed world, it seems likely that the elasticity of financial transactions may well be significantly lower than what Burman et al. (2016) estimate. Now, let's turn from the successfully implemented stamp duty to the standard example of a failed FTT: Sweden. In 1984, Sweden introduced a tax of 1 percent on equities transactions, and in 1986 doubled the rate. In 1989, an additional tax on fixed-income securities took effect. Faced with disastrous revenue results compared with projections, by 1990 the fixed-income securities tax was abolished, and by the end of 1991 so too was the tax on equity transactions (Schulmeister 2009).

As with the U.K. FTT, the narrow focus of the Swedish FTT allowed for some of the same tax avoidance. For instance, Campbell and Froot (1993) attribute the drop in fixed-income securities volumes to the ease of shifting toward substitutes for bonds. But the large shift of Swedish trading volume to London (which by 1986 had instituted the Stamp Duty Reserve Tax outlined previously) can mostly be attributed to the poor design of the tax. Specifically, rather than applying to the stock of Swedish companies, the tax was applied to equity transfers on registered Swedish brokerage services. So while for Swedish investors, substitution and forgone trading were the dominant ways to avoid the tax, this was not the case for foreign investors. In order to avoid the tax, foreign investors needed only to use non-Swedish brokers. These examples point out the necessity of keeping in mind the context of the historical elasticity estimates. These elasticities tend to come from narrow FTTs that left ample space for avoidance, making it more likely that a well-designed FTT could have a lower elasticity than historical estimates.

Table 2 gives an overview of the various elasticity estimates from the literature and the market from which they stem.

Table 2

Review of elasticity estimates

Author(s)	Country (market)	Market type	Elasticity estimate	Estimate type
Epps (1976)	U.S.	Stock market	-0.25	TTC
Jarrell (1984)	U.S.	Stock market	-1	TTC
Jackson and O'Donnell (1985)	U.K.	Stock market	-0.5 (-1.65)	TTC
Lindgren and Westlund (1990)	Sweden	Stock market	-0.9 to -1.4	TTC
Ericsson and Lindgren (1992)	Multinational	Stock market	-1	TTC
Wang et al. (1997)	U.S.	S&P 500 Index futures (CME)	-2	BAS
Wang et al. (1997)	U.S.	T-bond futures (CBT)	-1.2	BAS
Wang et al. (1997)	U.S.	DM futures (CME)	-2.7	BAS
Wang et al. (1997)	U.S.	Wheat futures (CBT)	-0.1	BAS
Wang et al. (1997)	U.S.	Soybean futures (CBT)	-0.2	BAS
Wang et al. (1997)	U.S.	Copper futures (COMEX)	-2.3	BAS
Wang et al. (1997)	U.S.	Gold futures (Comex)	-2.6	BAS
Hu (1998)	Multinational	Stock market	0	STT
Aitken and Swan (2000)	Australia	Stock market	-0.97 to -1.2	TTC
Wang and Yau (2000)	U.S.	S&P 500 Index futures (CME)	-0.8 (-1.23)	BAS
Wang and Yau (2000)	U.S.	DM futures (CME)	-1.3 (-2.1)	BAS
Wang and Yau (2000)	U.S.	Silver futures (CME)	-0.9 (-1.6)	BAS
Wang and Yau (2000)	U.S.	Gold futures (CME)	-1.3 (-1.9)	BAS
Swan and Westerholm (2001)	Sweden	Stock market	-1	TTC
Swan and Westerholm (2001)	Finland	Stock market	-1.27	TTC
Zhang (2001)	Shanghai	Stock market	-0.58	STT
Zhang (2001)	Shenzhen (China)	Stock market	-0.49	STT
Baltagi et al. (2006)	China	Stock market	-1	TTC
Baltagi et al. (2006)	China	Stock market	-0.5	STT
Chou and Wang (2006)	Taiwan	Futures market	-1	STT
Chou and Wang (2006)	Taiwan	Futures market	-0.6 to -0.8	BAS
Liu (2007)	Japan	Stock market	-1	STT
Schmidt (2007)	Multinational	Foreign exchange	-0.4	BAS

Note: Values in parentheses are long-run estimates. As Matheson (2011) points out, if the elasticity of trading volume is measured with respect to subcomponents of transactions costs (in this table, securities transaction taxes [STT] and bid-ask spreads [BAS]), then the implied elasticity with respect to total transactions costs (TTC) is higher.

Source: Adapted from Matheson (2011) and Schulmeister (2009)

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Given that U.S. financial markets are the largest in the global economy, a well-designed FTT that explicitly aimed to minimize possibilities for tax avoidance by arbitraging among financial instruments should be able to cut down substantially on trading elasticities. Further, given the substantial movement toward accepting FTTs in the EU, international coordination could even further reduce the scope for tax avoidance, should the U.S. and EU come to agreement on tax harmonization.

This type of reasoning is analogous to the famous finding in Gruber and Saez (2002) for individual income taxes: The broader the tax base, the lower the elasticity of taxable income (ETI). The ETI is a measure of how much taxable income changes in response to changes in tax rates. When the ETI is low, then taxable income does not change much in response to tax rate changes, and more revenue is raised for a given rate. Gruber and Saez's (2002) findings are that the elasticity of taxable income can vary by a factor of three depending on broadness of income tax bases. The tax base underlying today's idiosyncratic and patchy set of local FTTs surely can be substantially broadened with a well-designed policy—particularly one that spurs cross-border cooperation and rate harmonization.

Recent U.S. proposals for FTTs are in fact designed explicitly to minimize the possibility of tax-shifting arbitrage. They are broad-based, and the rates are set so as to minimize gains from choosing one type of transaction over another. Given this, it seems that lower elasticities should at least be considered in making revenue projections. In Table 1 we provide our own estimates of revenue for an assumed elasticity of 0.75 (along with elasticities ranging up to 1.5), broadly following the methodology of Burman et al. (2016).

Revenue offsets to FTT

The final reason why some more-recent estimates of FTT's revenue potential are significantly smaller than past estimates is the assumption of large revenue offsets. These offsets are smaller income, payroll, and capital gains taxes collected following the introduction of an FTT, and higher borrowing costs for the federal government. We will say a bit about both of these offsets below, but it is important to note that the large offsets estimated by Burman et al. (2016) rely on viewing the marginal transactions that would be displaced by an FTT in today's financial markets as being efficient and value-creating. If these marginal transactions, on the other hand, do not create economic value and tend to simply redistribute income in a zero-sum fashion, then the large offsets identified by Burman et al. (2016) will not appear. The final section of this paper notes the large literature that has emerged in recent years highlighting that marginal financial transactions in finance-heavy economies like the United States are likely not strongly value-creating.

The first offset identified by Burman et al. (2016) is the fall in income, payroll, and capital gains taxes that could theoretically follow the introduction of an FTT. Specifically, Burman et al. (2016) assume that financial activity suppressed by the introduction of an FTT is simply an income loss to the economy. This income loss (presumably felt in the salaries and profits of financial-sector firms) hence leads to lower income, payroll, and capital gains

taxes collected. This revenue offset is not trivial—it ranges as high as 20 percent or more of the gross revenue estimates of the FTT.

However, if the financial activity displaced by the introduction of an FTT took the form of unproductive economic rents, then there is no aggregate income loss. If, for example, the lower incomes of financial-sector firms simply translate into higher post-fee returns earned by non-financial households, then these higher capital earnings accruing to this latter group will be taxed. We calculate the revenue offset from the introduction of FTTs following the Burman et al. (2016) estimates in Table 1, but our preferred estimate of the likely revenue potential of an FTT remains the gross, non-offset estimates.

A second, and even larger, revenue offset calculated by Burman et al. (2016) concerns the possibility that the cost of servicing debt will be larger following the introduction of an FTT. If this is true, interest costs to the federal government on outstanding debt will rise following the introduction of an FTT. These increased borrowing costs crowd out fully half of the gross revenue estimates, according to Burman et al. (2016).

Again, however, the likelihood of such borrowing cost increases depends largely on how one views the efficiency of financial markets. If these markets are fully efficient, then it is indeed true that the cost of FTTs will be passed on fully to borrowers, and the Burman et al. (2016) borrowing cost estimates will hold.

However, if today's financial markets largely extract rent and overcharge users for financial intermediation, then it is far from clear that an FTT that squeezes out some of these rents will lead to one-for-one increases in borrowing costs. In fact, if some of today's borrowing costs charged to debtors constitute simple rent extraction in the form of churning assets to generate fees, then the introduction of an FTT could actually lead to less churning and lower costs.

Again, we present estimates of the increased borrowing costs based on the Burman et al. (2016) estimates in Table 1, but we again prefer the gross revenue estimate of the FTT.

The gross revenue estimates reported in Table 1 range from $110 billion to just over $400 billion—largely in line with earlier estimates of FTT revenue possibilities. The importance of offsets can be seen clearly in the row that estimates net revenue assuming full offsets: Revenue falls to between $38 billion and $105 billion, or by roughly two-thirds to three-quarters. We grant that assuming zero offsets might be incorrect, but the assumption of fully efficient financial markets underlying the large offsets included in the Burman et al. (2016) findings also seems unlikely.

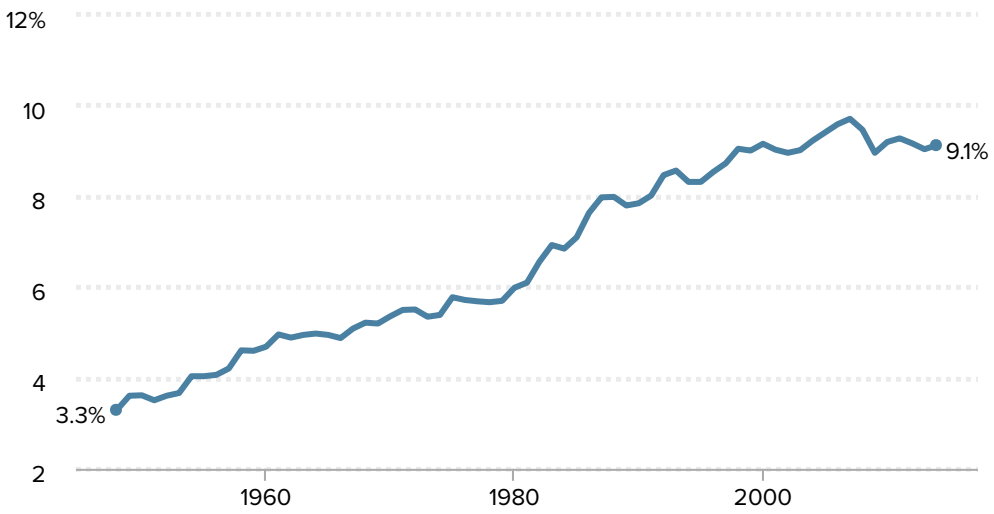
A non-controversial issue: The distributional incidence of FTT revenue

Finally, it is important to note that there is very little controversy over the distributional incidence of FTTs. They are universally thought to be extraordinarily progressive revenue increases, relative to either the current distribution of income or the current combined incidence of federal taxation. Most analyses allocate the incidence of FTTs to be

Figure A

Finance claims a growing share of the U.S. economy

U.S. financial-sector income as a share of private, domestic income, 1948–2014



Note: Federal Reserve bank profits are excluded from this analysis.

Source: EPI analysis of Bureau of Economic Analysis (BEA) data on compensation and corporate profits by industry

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proportional the existing distribution of wealth in the U.S. economy. Given the extraordinary concentration of wealth in the United States at the top of the distribution, this leads to the progressive incidence of FTTs.

Are FTTs worth doing even if revenue gains come in on the low end?

The rapid fall in transaction costs noted previously have coincided with very large increases in the volume of transactions, and with a large increase in the share of U.S. GDP accounted for by the financial sector. **Figure A** shows that the share of private-sector national income accounted for by finance has risen from 3.3 percent in 1948 to 9.1 percent in 2014.

If the introduction of an FTT leads to a substantial reduction in financial-sector activity, how this would affect the living standards of typical American households hinges on whether or not the increase in financial-sector activity in recent decades boosted GDP growth, or was largely driven by a zero-sum redistribution toward the financial sector.

Much evidence seems to favor the latter interpretation. For example, Cecchetti and Kharroubi (2012) find suggestive cross-country evidence that "the level of financial development is good only up to a point, after which it becomes a drag on growth." For

advanced economies they find that a "fast-growing financial sector is detrimental to economic growth." In a 2015 paper the same authors posit that the causal link between fast-growing financial sectors and slower overall growth is driven by financial expansions favoring high-collateral and low-productivity activity (like construction), and the migration of high-skilled workers toward finance and away from other higher-productivity sectors.

Biais, Rochet, and Woolley (2012) advance a similar theory for why financial-sector deregulation leads to redistribution toward finance rather than efficiency growth. They posit that the value of financial-sector innovations that arise in response to deregulation are hard for investors to detect. The financial-sector managers who investors hire to monitor new financial innovations for risk must expend effort to properly assess risks, and this leads to classic principal–agent problems. Initial successes in innovations lead to poorly monitored managers demanding large rents, even as they stop expending effort to properly manage or contain risk.

Haldane, Brennan, and Madouros (2010) make a similar point, noting that much of the large increase in financial-sector incomes in recent decades could be explained by the increasing leverage of financial-sector institutions. This leverage increased returns during good times, but led to very large fall-offs in measured financial-sector incomes when the crisis hit. Haldane, Brennan, and Madouros (2010) interpret the large rise in financial-sector incomes that stemmed from higher leverage ratios in the run-up to the housing crisis as evidence that the sector was just disguising, rather than managing, risks. They argue that disguising risk is not a useful economic activity that adds value to the economy, and hence the large pre-crisis returns to financial activity were essentially rents.

Greenwood and Scharfstein (2013) trace the growth of the financial sector's share in overall GDP in part to increased asset management fees. A key question in assessing the value of these increased fees is whether or not they have delivered higher (post-fee) returns to households than would have been obtained through lower-cost passive investment strategies. The evidence is strong that they have not, and that in fact professional management of assets reduces the post-fee return to most households.[8]

Finally, Philippon (2015) finds that there has been stunningly little productivity growth in the financial sector in recent decades. And yet despite this poor productivity growth, the share of overall national income accruing to the financial sector has risen. One potential explanation for this counterintuitive combination would be rising concentration in the financial sector, which allows a greater mark-up over costs. That financial-sector concentration has occurred is clear.

This evidence on economic value-added of financial services carries strong implications that FTTs are desirable policy even when elasticities of financial transactions are large. If the marginal value of financial transactions is zero (or even negative, as in Cecchetti and Kharroubi 2012), then each dollar of financial activity crowded-out by FTTs results in a dollar increase in typical households' disposable income. Essentially, they are no longer paying for financial transactions that add no value to the economy. This is as good as a tax cut for these families and boosts their disposable income.

The scale of this income boost is large. Take the case where our proposed FTT crowds out 87 percent of all financial transactions. The cost of each of these transactions to U.S. households can be conservatively approximated by the measure of transaction costs we used in our revenue calculations. The total decrease in financial-sector transaction costs is $227 billion. This is 10 times as large a transfer to U.S. households as was spurred by the recent Labor Department ruling barring retirement advisors from giving conflicted financial advice to clients (CEA 2015).

Are there other useful ways to extract a fair/substantial contribution from finance?

It has occasionally been suggested that FTTs are not the most efficient way to obtain a "fair and substantial" contribution from the financial sector. An oft-cited alternative to FTTs are FATs (financial activity taxes). A FAT is essentially a value-added tax (VAT) for the financial sector. Theoretical FATs are often recommended to apply only to the portion of financial-sector incomes that are "rents." However, there are a number of potential problems with implementing FATs.

First, the notion that *particular* financial activities can be cleanly identified as generating only "rents" and taxed while other activities will be identified as value-creating and exempt from a FAT seems enormously fanciful. It is far from obvious that a real-world FAT would be better-targeted at crowding-out particularly wasteful financial transactions than a real-world FTT.

Second, the scale of the FAT that would be necessary to generate revenue equivalent to a well-designed FTT is not trivial. Our proposed FTT would generate about $105 billion at an elasticity of 0.75, even assuming the full offsets applied by Burman et al. (2016). Using this revenue as a static estimate, the FAT required to replicate this level of revenue would be 12 percent.

Finally, concrete proposals for FTTs are currently being debated and analyzed. There has been no such momentum for real-world FATs. If proponents of a FAT are acting in good faith and genuinely want to extract a fair and substantial contribution from finance, but just not with an FTT, they should begin introducing concrete proposals. Our sense is that FTTs actually do not have near the efficiency downsides that critics often claim, and that the politics of introducing real-world FTTs are better-developed (as we noted before in our quick summary of FTTs and proposals for FTTs around the world). There are no concrete proposals currently in play in U.S. politics for a FAT that would raise any non-trivial amount of revenue.

Conclusion: FTTs are a crucial policy tool

The primary case for enacting an FTT is simply that it is an efficient and progressive revenue source. While the long-run challenges to achieving a sustainable federal budget balance are often overstated, it is likely the case that revenue increases will be needed over time to ensure sustainability without gutting crucial public investment and social insurance programs. This makes finding efficient revenue sources a high policy priority. The extraordinary rise in income inequality in recent decades highlights the need for new revenue sources to be progressive. The FTT ticks both boxes.

Moreover, so long as the marginal value of financial transactions is low—and this is very well supported by much recent research—then the worse the FTT is as a revenue-raiser, the better it is at directly boosting the disposable income of typical households by crowding out low- or negative-value financial transactions.

In the end the only sustainable argument against the desirability of a well-designed FTT is that each additional dollar spent on financial transactions is actually translating near-directly into increased economic efficiency. Even aside from the extreme failures of risk management in finance that led to the Great Recession (a notable thing to set aside), it seems very hard to make the case that typical American households have benefitted much from the extraordinary increase in the scale of financial transactions in recent decades. It seems clear that the rise of finance has been largely at the expense of other economic sectors, and that a well-designed FTT is a very useful tool for shrinking the unproductive parts of this sector.

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Endnotes

1. The “fair and substantial contribution by the financial sector” phrasing comes from a staff report of the International Monetary Fund in 2010.

2. These are average rates. The precise rates should depend on factors such as the average time to maturity of bonds to ensure that prospects for arbitraging tax liability away by shifting between financial assets are minimized.

3. Our volume estimates are very close to those provided in Nunns (2016).

4. The bid/ask spread represents the difference between the highest price that a buyer is willing to pay (bid) for a security and the lowest price that a seller is willing to accept for it. It is often thought to represent mostly the extent of market liquidity—the more buyers and sellers for an asset there are at a given point in time, the lower the bid/ask spread is expected to be. Technology that better matches potential buyers and sellers is thought to be a key reason for the decline in the bid/ask spread in recent decades.

5. A wonky but important note in reporting these elasticities is that they assume exponential demand curves, not linear curves. Exponential demand curves see demand for a transaction go asymptotically to zero as costs rise, but demand is never fully extinguished (let alone goes negative). This follows the approach of Burman et al. (2016) and seems clearly correct to us.

6. British GDP from U.K. Office for Budget Responsibility (2016). Stamp duty reserve revenue from U.K. Revenue and Customs (2015).

7. Financial and insurance output as a percentage of gross value added from U.K. Office for National Statistics (2014).

8. There is a separate question as to whether or not the active professional management of assets has economic benefits stemming from activist investors searching for above-market returns and disciplining poorly performing non-financial firms. Greenwood and Scharfstein (2013) do not put much stake in this argument.

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