

**Taxation for the 21<sup>st</sup> Century:  
The Automated Payment Transaction (APT) Tax**

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**The Detailed APT Tax Proposal can be downloaded at:  
<http://econwpa.wustl.edu/eps/pe/papers/0106/0106001.pdf>**

**The Automated Payment Transaction (APT) Tax**  
**Taxation for the 21<sup>st</sup> Century**  
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**Executive Summary**

I propose the replacement of our current system of individual and corporate income, sales, excise, capital gains, import and export duties, gift and estate taxes with a single comprehensive “revenue neutral” Automated Payment Transaction (APT) tax. The APT tax consists of a flat rate tax levied on all voluntary transactions. The total volume of transactions represents the broadest conceivable tax base and therefore requires the lowest conceivable marginal tax rate. Since the efficiency (misallocation) costs of a tax system tend to rise geometrically with the marginal tax rate, a massive reduction in tax rates can save an estimated \$300 billion of misallocation costs associated with the current tax system.

The APT tax is automatically assessed and collected when transactions are routinely settled through the electronic technology of the bank/payments clearing system with no deductions, exemptions, or exclusions. The APT tax also imposes an automatically collected tax on cash as it enters and leaves the banking system. All income and information tax returns are eliminated as taxes are digitally assessed and collected by the financial equivalent of the E-Z pass that is now used to speed traffic through a toll booth system on highways. The annual savings in compliance and administrative costs are estimated to be \$200 billion per year.

Unlike the “Fair Tax” or “National Sales Tax” proposals which are highly regressive, the flat rate APT tax introduces progressivity through the tax base since the total volume of transactions includes all asset transactions involving exchanges of titles to property. The wealthy carry out a disproportionate share of these asset exchanges and therefore bear a disproportionate burden of the tax despite its flat rate structure. The perceived fairness, even handedness and simplicity of the APT tax will greatly reduce tax evasion, which the IRS estimates to total \$325 billion per year.

Like all taxes, the APT tax creates new distortions which must be weighed against the benefits obtained by scrapping the current tax system. Scrapping the present tax system tax promises potential benefits estimated at \$825 billion annually. The proposed APT tax is simple, comprehensible, fair and efficient, with minimal administrative and compliance costs. The burden of proof therefore rests with APT tax opponents who must demonstrate that its costs exceed the \$825 billion of potential annual benefits.

**A Proposal for 21<sup>st</sup> Century Tax Reform:  
The Automated Payment Transaction (APT) Tax\***

**Edgar L. Feige**

The President’s Advisory Panel on Tax Reform states that the “fundamental purpose of our tax system is to raise revenues to fund government.” It acknowledges that our current tax system is overly complex, lacks transparency, imposes large compliance costs and leads to the inefficient use of resources. Nobel Laureate Milton Friedman has described the present system as a blackboard that has been filled up with so much writing that the slate must be wiped clean. American citizens and their representatives are faced with a stark choice. Shall we once again engage in piecemeal modifications of a broken tax system that will bring out the worst of special interest politics or are we ready to wipe the slate clean and design a totally new tax system for the 21<sup>st</sup> century based on digital technology and consistent with basic tax principles?

A reformed tax system must be revenue neutral, fair, equitable, simple, stable, transparent and highly efficient. Fairness requires that similarly situated taxpayers are taxed similarly. Equity requires a degree of progressivity that acknowledges that those fortunate enough to enjoy high incomes and accumulated wealth will pay a higher proportion of their income and wealth in taxes. Simplicity requires that ordinary taxpayers understand the tax law. Stability requires that the new tax law is transparent and immutable, no longer vulnerable to erosion of the tax base by special interest groups. There is general agreement that tax reform must include base broadening and a corresponding decrease in marginal tax rates that will stimulate economic growth and minimize the misallocation of resources from their most productive uses. Finally, the tax code should be relatively costless to administer with minimum compliance costs. To accomplish these goals I propose the replacement of our entire present system of personal and corporate income, sales, excise, capital gains, import and export duties, gift and estate taxes with a single comprehensive revenue neutral Automated Payment Transaction (APT) tax.

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\* The complete APT tax proposal can be found at <http://econwpa.wustl.edu/eps/pe/papers/0106/0106001.pdf>

**The Automated Payment Transactions (APT) Tax: How it Works.**

The foundation of the APT tax proposal – a low flat tax rate on all voluntary economic transactions - - involves simplification, base broadening, massive reductions in marginal tax rates, the elimination of tax and information returns and the automatic assessment and collection of tax revenues at the payment source. The APT tax broadens the tax base to all voluntary transactions. All exemptions, deductions, credits and exclusions are eliminated. Doing away with all tax breaks - so-called “tax expenditures” – with a “zero tolerance” policy on exemptions, the government is required to utilize direct transparent expenditures to provide incentives for those activities it chooses to favor (e.g. home ownership). Unlike other flat tax proposals, the APT tax is progressive, since the volume of taxed transactions rises disproportionately with personal income and wealth. Since every transaction is settled by some means of final payment, taxes are assessed and collected at their payment source. Taxes are digitally collected through the automated bank/payment clearing system when the exchange is consummated by payment. This automatic collection feature eliminates the need for individuals and firms to file tax and information returns. Real-time tax assessment and collection at source of payment applies to all types of transactions, thereby radically reducing administration and compliance costs as well as opportunities for tax evasion.

The APT tax permits a dramatic reduction in the marginal tax rates by greatly broadening the tax base. It therefore reduces the distortions caused by taxing productive activity, recapturing much of what economists call the “deadweight” efficiency losses created by the current tax system. A massive reduction in marginal tax rates on wages and salaries will increase the supply of labor and business growth is stimulated by the elimination of corporate income taxes. These significant efficiency gains will overshadow some new distortions introduced by taxing transactions not previously taxed. Among potential distortions, one must include incentives to vertically integrate businesses, a potential reduction in the liquidity of some financial instruments used to hedge business risk, a lengthening of the term structure of debt and the holding period of financial assets and incentives to seek payment substitutes and offshore tax havens.

Although every tax imposes some distortions, there is every reason to believe that the net effect of replacing the current system with the APT tax results in a substantial gain in efficiency.

Some of the seemingly adverse incentives created by a transactions tax may even increase overall efficiency. John Maynard Keynes and Nobel Laureate James Tobin have long argued that untaxed financial markets make transactions costs so low as to produce excessive volatility. Lengthening holding periods for financial assets will better synchronize financial and real investment horizons, stabilizing investment prospects for the sought after “ownership” society.

The APT tax reform will create winners and losers – but along lines that most people would find desirable. The greatest beneficiaries will be those whose current level of taxes are considerably reduced, primarily wage and salary earners with modest asset holdings and long term investment goals. Those most likely to perceive themselves as losers are individuals and financial institutions that profit from short term financial churning, along with those who sell advice on how to minimize taxes under the current opaque system. Politicians will bemoan the loss of political contributions from special interest lobbies designed to curry tax favors.

### **The APT Tax Base and Tax Rate**

The APT tax base consists of all voluntary transactions that are evidenced by final payment. There are no exemptions, exclusions, deductions or credits. The base thus includes all incomes and expenditures and exchanges of titles to any form of property. For the year 2002, the *initial* tax base, consisting of debits to insured commercial banks and institutions offering checkable accounts plus domestic cash payments totals \$674 trillion.<sup>1</sup> To calculate the “revenue neutral” tax rate we require an estimate of the revenues of the current tax system to be replaced and the *effective* tax base, namely the volume of transactions that occur once the APT tax is in place. A “revenue-neutral” APT tax designed to replace all federal, state and local personal and corporate income taxes; excise and customs taxes; gift and estate taxes; for the year 2002, must yield tax revenues of \$1,821 billion.<sup>2</sup> Given an estimated lower bound initial APT tax base of \$674 trillion, and a required level of tax revenues of \$1,821 billion, the initial revenue-neutral tax rate per transaction would be 0.27 percent if the level of transactions remained unaffected. Each party to a transaction would be required to pay an APT tax of 0.135 percent.

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<sup>1</sup> See technical appendix A.

<sup>2</sup> These figures do not include contributions for social security programs, state and local property taxes and user fees, which would not initially be replaced with the APT tax. See Table 1 in Appendix A.  
Professor Edgar L. Feige (elfeige@wisc.edu)– APT Tax Proposal

Even this low APT tax rate will induce economic agents to economize on the volume of transactions they undertake. The extent of this effect will depend upon the elasticity of transactions in the US and the percent by which current transactions costs would be increased. The most careful, albeit dated, estimate of the elasticity of equity trading volume to transaction costs in U.S. equity markets is (-.26) by Epps (1976) suggesting that a 100 percent increase in trading costs would reduce the volume of transactions by 26 percent.<sup>3</sup> The transactions costs paid in 1999 for equity trades by institutional investors in the United States averaged 28.5 basis points. Adding a transactions tax of 13.5 basis points would raise transactions costs by 50% leading to an estimated decline in total transactions of 13%.

To estimate the effective APT tax base and the “revenue neutral” APT tax rate, Appendix A (Table 2) displays alternative scenarios taking account of different transaction elasticities. A highly conservative estimate that assumes that total transactions fall by a full 50 percent of their present value (bringing transactions volume to the level that prevailed in 1992) suggests that the ‘revenue neutral’ flat APT tax rate would be .54 percent on each transaction. This cost would be equally divided between the buyer and seller resulting in a .27 percent tax on the value of each transaction.

### **Distribution of the Tax burden**

To gauge the distributional impact of the APT tax, it is necessary to estimate the distribution of payments made by different income classes. Consider a family with an annual income of \$80,000 paying \$20,000 in interest and mortgage payments on their house and spending \$60,000 on all other items. The family has total transactions of \$160,000. Today that family would owe roughly \$20,000 in total taxes. Under the APT tax, with a rate of 0.54 percent, they would pay \$216 ( $.0027 \times \$80000$ ) on their income receipts and \$216 on their expenditures for a total tax of \$432. Their employer would pay \$216 tax on the income payment, the mortgage company would pay \$54 on its receipts and the merchants receiving the family's \$60,000 of other expenses would pay another \$162 in taxes. In total, the government would automatically collect \$648 in tax revenues.

How then does the government collect enough taxes to pay its bills? Most of the revenues would be collected from the massive volume of stock and bond trades and foreign exchange

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<sup>3</sup> The transactions elasticity that would apply to the APT tax would be lower since the breath of the APT tax eliminates many substitutes that were available to the markets for which the Epps elasticity estimates apply.  
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transactions - none of which are now taxed. As shown in Appendix A, the distribution of transactions is highly skewed toward the very rich and wealthy, assuring that even a flat tax will be highly progressive due to the skewed nature of the tax base. One might be concerned that imposing taxes on these types of transactions would stifle economic activity in these critical areas. However, the tax is so small it would be dwarfed by the simple fluctuations in price that typically occur during the trading process. Although "day trading" and short term foreign exchange transactions will certainly decline substantially, the reduction in these "hot money" transactions is only likely to reduce speculative market activity, thereby reducing the volatility of prices in these markets. The expected reduction in the volume of transactions has been taken into account to determine the "revenue neutral" APT tax rate.

### **Administration and Compliance**

The everyday operation of the modern financial system already requires the maintenance of exact records of debits and credits to determine customers' current balances. In practice, the proposed APT tax revenue assessment and collection system would demand only a minor software modification to existing financial institution accounting procedures. The change would create a virtual tax payment account (TPA) linked to customer's financial accounts. The linked TPA would be required to maintain a positive balance somewhat in excess of expected tax payments. Every debit or credit to the primary account would trigger a corresponding debit in the TPA account equal to the amount credited or debited multiplied by the flat tax rate. The assessed tax is electronically transferred to the account of the government. All taxes are thus automatically assessed and collected at the time the transaction is consummated. Every taxpayer has a private transparent record of all transactions on which taxes were paid, but this record is not available to the government so as to assure complete privacy for the individual taxpayer. The government only has access to the TPA, which reflects the aggregate sum tax payments. The elimination of all exemptions, deductions, exclusions and credits insures that no transaction can be identified by type, thus eliminating the governments need to know anything other than the total volume of payments made. The APT tax establishes an electronic real time system of instantaneous withholding for all payments. The present U.S. income tax system limits automatic withholding to taxes on wages and salaries. It requires the filing of quarterly returns and quarterly estimated tax payments for all other non-

withheld sources of income as well as the costly filing of information returns by firms paying interest and dividends. The APT tax collection system eliminates the need for all this paperwork, significantly reducing compliance costs for American business. It is designed to complement the existing computerized payments mechanism, minimizing the initial fixed transition cost of establishing an APT tax collection system.

### **The Role of Government**

The APT tax system would shift the state's role from that of an active partner in the outcomes of the "game of economic exchange" to that of a disinterested ticket-taker. The government would simply establish the cost of admission to the market system of voluntary exchange with a flat rate public brokerage fee on all transactions. The elimination of all income taxes and capital gains provisions makes those who choose to undertake exchanges bear the full burden of mistakes and reap the full advantages of successes. The APT tax eliminates all tax exemptions and tax credits. The history of past tax systems amply demonstrates the vulnerability of tax systems that permit exemptions, exclusions and credits to special interest lobbies. Denying the revenue collection mechanism the role of allocating and redistributing resources restores the comprehensibility and simplicity of the tax system. It also saves corporate America vast lobbying expenses, since the returns to good business decisions no longer depend upon preferential tax treatment but rather on sound corporate management. The elimination of hidden tax expenditures requires the government to appropriate funding for deserving public services and transfer payments, making the true level of expenditures explicit and subject to direct political evaluation. Genuine charity requires no tax incentives; whereas the provision of public goods and services by charitable institutions deserves governmental expenditures subject to political approval.

Similarly, if greater incentives for stimulating home ownership are required, they too should be handled by subsidizing home loans through the more transparent government expenditure process. It should be noted that home ownership is already automatically favored by the APT tax since an owner occupied home is typically the longest term asset in the household asset portfolio, turning over on average, only once every ten years. Moreover, the elimination of income and sales taxes, creates a powerful income effect that will enable households to more rapidly accumulate the savings required for a home down payment.

The APT tax design addresses the issue of fiscal federalism. State and local property taxes and user fees would continue to provide the same level of revenue as before, since the APT is not intended to replace these revenue sources. State income and excise taxes would, however, be eliminated and replaced through the APT tax system. The states would establish resident-specific taxpayer accounts directly linked to the taxpayer's federal TPA account. Every final payment would trigger both an automatic federal payment and a state resident payment. The states would collect taxes electronically as a form of automated revenue sharing.

### **Economic Efficiency and Treatment of Business**

The transactions directly associated with the production of final goods and services amount to roughly twice the GDP. Thus, although these transactions represent less than 5 percent of total transactions, they constitute the principal portion of the current tax base. The reduction of average and marginal tax rates on current taxable income that now range from 10-35 percent to less than 0.3 percent would drastically reduce the present tax incentive to substitute leisure for work. Since the APT tax system would include neither personal deductions nor exemptions, it would also eliminate current distortions that favor some types of income while discouraging others.

The APT tax would fundamentally change the incentives facing firms, altering the strategic rules of doing business. The state's present extensive participation in the costs of doing business provides firms with perverse incentives to inflate overall costs, since costs are now allowed as a business deduction that reduces overall tax liabilities. Moreover, depreciation rules, interest deductions, and deductibility of particular forms of compensation, create major distortions in firms' choices of depreciation schedules, modes of financing investment and payment of compensation to factors of production. With the APT tax, firms are free to select internal depreciation methods that reflect the actual replacement costs of their capital stock, the most efficient methods of financing investment and the least costly factor compensation packages dictated by market rather than tax incentives. When fringe benefits are not taxed as part of employee income, firms have an incentive to provide such benefits even though their true costs exceed what employees would otherwise be willing to pay for them. Under the APT tax, employees would have little incentive to over-consume fringe benefits, choosing instead to take higher wages and salaries as direct payments.

Subjecting trade in intermediate goods and services to the APT tax base is analogous to introducing a small, flat-rate turnover tax. Given the knee-jerk antagonism of most economists to the mere mention of a turnover tax, it is important to clarify the likely extent and nature of the distortions. First, the turnover component of the APT tax is very small since total intermediate transactions make up less than 5 percent of total payments in the economy. Second, it is doubtful that the APT tax would result in substantial vertical integration of businesses since in most cases gains from specialization are likely to be large relative to the size of the APT tax. Where net specialization gains are eliminated by the APT tax, firms will tend to integrate their output, leading to a reduction in out-sourcing and to an increase in the demand for American labor. While some relative prices may change, the aggregate price level is likely to fall due to the elimination of the corporate income tax, (which is now partially shifted forward). Prices will also be lowered due to the major compliance cost savings resulting from the elimination of information and tax returns. The elimination of both the corporate income tax and the compliance costs associated with the current tax system will make American industry more competitive internationally.

Nevertheless, if tax cascading induces artificial price differentials that are shown to have significant adverse allocation effects on businesses with many stages of intermediate payments (vertical integration), those affected firms could choose, at their expense, to apply for tax credits in the same manner as net consumption VAT taxes are now assessed. While this sole exception to the “zero tolerance” policy on exemptions would introduce an element of added complexity and cost to an otherwise seamless tax system, it might be justified as a means of ameliorating any potentially serious misallocation problem arising from the cascading effect of the APT tax.

The international transaction component of the APT tax is a variant of what has become known as the Tobin tax. The advantages and shortcomings of taxing foreign transactions have been extensively analyzed. A modest tax on international flows is unlikely to hamper international trade, being small compared to transportation costs and not exceeding the cost of using forward and future markets to hedge against currency fluctuations. Since the relative importance of the APT tax decreases with the length of maturity of financial contracts, the tax would primarily affect “hot money” transactions seeking to profit from the arbitrage possibilities created by minute price differentials. Unlike the Tobin tax, which proponents see as a possible revenue source for

multilateral organizations like the World Bank, the APT tax revenues would go directly into the National Treasury.

All voluntary exchanges of goods and services undertaken at prices that fully reflect the costs of production are “welfare enhancing,” since they allocate resources to their highest valued use. The same principle applies to exchanges of assets. However, under the present tax system, the brokerage fees charged for financial exchanges only reflect private costs, while the cost of operating the government now falls exclusively on the markets for goods, services and factors of production. Of course, the direct effect of any transaction tax may reduce the liquidity of financial markets, and could thereby increase price volatility. However, when the imposition of the APT tax is combined with the elimination of capital gains and corporate income taxation, the net effect is likely to increase market liquidity and stability. Income effects will tend to dampen any adverse substitution effects.

The APT tax on financial exchanges provides an incentive to lengthen the holding period of both equity and debt instruments. The biggest effect would be on short-term speculative trades intended to capture small percentage returns to portfolios by getting on or off the "bandwagon" of what is believed to be current market psychology. By increasing the cost of frequent trading, the APT tax provides incentives for financial analysts to direct their talents to the search for long term profits rather than short term trading programs. The higher costs of frequent trading would extend corporate management's investment horizons and give shareholders greater incentives to effectively monitor management.

### **Summary**

Taxpayers are painfully aware of the complexity, inefficiency, inequity and costliness of our present tax system. Individuals, businesses and non-profits spend 6 billion hours complying with the federal tax code and these “compliance costs” now approach \$200 billion annually. The annual efficiency or misallocation costs of our current tax system are estimated to be in excess of \$300 billion and the IRS suggests that more than \$325 billion of tax revenues are lost each year due to tax evasion. This \$825 billion annual loss to our economy (roughly twice our current level of defense expenditures) can be recouped by scrapping the current tax system and replacing it with a simple APT tax. The

burden of proof must therefore fall on critics of the APT tax to demonstrate that its costs exceed the \$825 billion in annual prospective benefits.

Republicans and Democrats agree on basic tax reform principles. These include: revenue neutrality, efficiency, equity, simplicity, transparency and the minimization of administrative and compliance costs. They also agree that efficiency is attained by reducing tax rates and broadening the tax base. The broadest conceivable tax base (and hence the lowest conceivable tax rate) is to tax all voluntary transactions in the economy including stocks, bonds, real estate and international financial transactions. All deductions and exemptions would be eliminated. By declaring a “zero tolerance” policy for any exemption, we wipe out the special interest loopholes that now riddle our overly complex tax code. Since the proposed tax base (the value of all transactions) is estimated to be 100 times larger than the current tax base, the flat tax rate needed to raise the same amount of revenues is roughly a hundredth of the current average tax rate. If transactions stayed at their current level, the APT tax rate would be 0.27 percent on each transaction. Even if total transactions fell by 50 percent, the revenue neutral APT tax rate would only be 0.54 percent. When split equally between the buyer and seller in each transaction, each would pay 0.27 percent. The APT tax can be viewed as a miniscule public brokerage fee assessed by the government to pay for the provision, maintenance and use of the monetary, legal, military and political institutions that facilitate and protect market trade and commerce.

Unlike the flat taxes proposed for income or consumption (national sales tax) which are highly regressive, a flat tax on all transactions is progressive--since the volume of taxed transactions rises disproportionately with personal income and wealth. Progressivity is automatically introduced through the tax base since it is the financial transactions of wealthier tax payers (which now escape taxation) that constitute a large fraction of the APT tax base. Simplicity, transparency and the minimization of compliance and administrative costs are achieved by eliminating the filing of all tax and information returns. Taxes are automatically assessed and collected when transactions are cleared by the electronic technology of the bank/payments settlement system. To eliminate tax evasion by the use of cash, currency is automatically taxed as it is withdrawn and deposited at ATM machines. Instead of filing income and information returns, all taxes are digitally collected by the financial equivalent of the E-Z pass that is now used to speed traffic through a toll booth system on

highways. Instead of auditing millions of corporations and individuals, the IRS (or Federal Reserve) would only have to monitor the several thousand financial institutions licensed to receive and make financial payments.

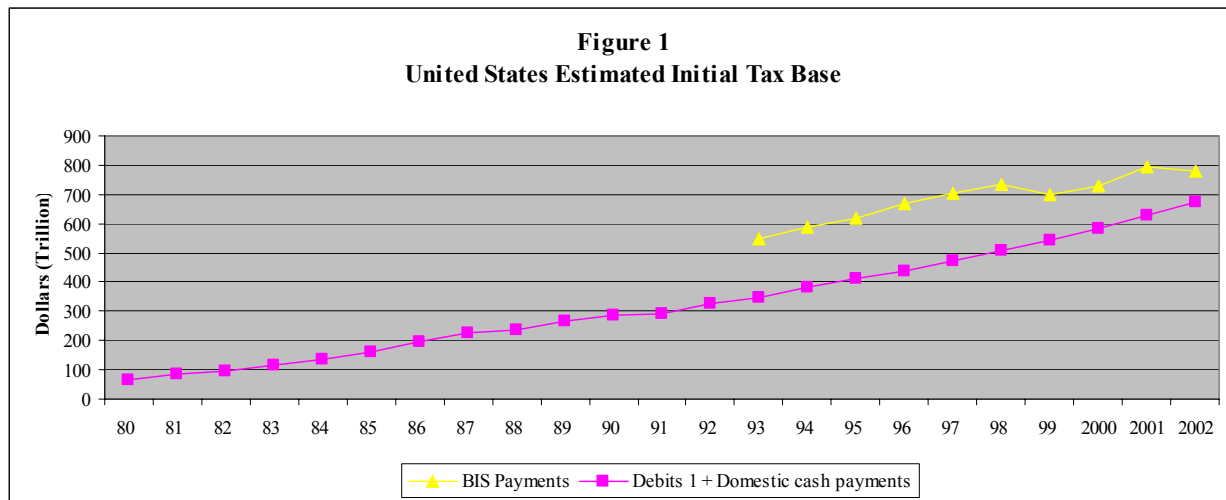
In short, by broadening the tax base to all transactions, radically reducing tax rates and automating collection, we can create a progressive system of taxation that is tough to evade, resistant to political tinkering and eliminates tax returns forever. The APT tax proposal embodies all of the normative principles that have guided successful tax reform proposals: simplicity, equity, efficiency and reduced costs of administration and compliance. It is time for bi-partisan cooperation to serve the interests of all American taxpayers by scrapping the current tax code and replacing with a comprehensible and efficient APT tax system.

**The APT Tax Proposal:  
Supporting Technical Supplement  
Appendix A**

**The Initial (Ex Ante) Tax Base:**

The APT tax base, consists of debits to accounts that permit the settlement of claims by check, wire transfer or direct debit. Debits and credits to bank and brokerage accounts are routinely recorded as part of standard accounting practices. Thus the collection and aggregation of debit statistics imposes minimal added burdens on the financial community.

Figure 1 presents upper and lower bound estimates of the *initial* APT tax base. The lower estimate is based on the Federal Reserve’s measure of debits to all insured commercial bank demand deposits and to other accounts that can be debited by check.<sup>4</sup> The upper estimate is the Bank for International Settlements’ estimate of the value of total payments, which is not properly adjusted for double counting. To the debit figures we add an estimate of the total volume of domestic payments made with US currency.<sup>5</sup>



<sup>4</sup> The Federal Reserve discontinued reporting debits in 1996. Debits 1 include forecasts for 1997-2002 based on the five year average growth of debits.

<sup>5</sup> Feige (1996) “Overseas Holdings of U.S. Currency and the Underground Economy”

<http://econwpa.wustl.edu/eps/mac/papers/0501/0501022.pdf>

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Source: Bank for International Settlements (2004) and Federal Reserve Bulletins through 1996. Author's estimates of domestic cash payments and debits forecasts 1997 - 2002.

The initial APT tax base is roughly 100 times larger than the income tax base as measured by the Internal Revenue Service's estimate of Adjusted Gross Income. The estimated lower bound for the initial APT tax base is \$ 674 trillion.

### **Required Revenue**

In 2001-02,<sup>6</sup> the two major sources of federal and state revenues were personal and corporate income taxes (75 percent) and excise taxes (22 percent). The revenue-neutral APT tax designed to replace all federal, state and local personal and corporate income taxes; excise and customs taxes; gift and estate taxes would be required to yield tax revenues of \$1821 billion.

***Table 1: Revenues to be replaced by APT Tax for 2001-2002***

| <u>Revenue Source</u>      | <u>Federal<sup>7</sup></u> | <u>State and Local<sup>8</sup></u> | <u>Total</u>          |                |
|----------------------------|----------------------------|------------------------------------|-----------------------|----------------|
|                            | <u>Dollars (Bil.)</u>      | <u>Dollars (Bil.)</u>              | <u>Dollars (Bil.)</u> | <u>Percent</u> |
| Individual Income Tax      | \$970                      | \$203                              | \$1173                | 64%            |
| Corporate Income Tax       | \$176                      | \$28                               | \$204                 | 11%            |
| Excise and Customs Tax     | \$85                       | \$324                              | \$409                 | 22%            |
| <u>Estate and Gift Tax</u> | \$28                       | \$7                                | \$35                  | 2%             |
| <b>Total</b>               | <b>\$1259</b>              | <b>\$562</b>                       | <b>\$1821</b>         | <b>100%</b>    |

### **Initial Flat Tax Rate Estimate**

<sup>6</sup> The years for which the most recent complete data are available.

<sup>7</sup> Budget of the United States government: Historical Tables: Tables 2.1 and 2.5

<sup>8</sup> Economic Report of the President: 2005 Table B-86

Given an estimated lower bound initial APT tax base of \$ 674 trillion, and a required level of tax revenues of \$1,821 billion, the revenue-neutral tax rate per transaction would be 0.0027 (674/1.821) if the level of transactions remained unaffected. Each party to a transaction would be required to pay an APT tax of 0.135 percent.

Even this low APT tax rate will induce economic agents to economize on the volume of transactions they undertake. The extent of this effect will depend upon the elasticity of transactions in the US and the percent by which current transactions costs would be increased. The most careful, albeit dated, estimate of the elasticity of equity trading volume to transaction costs in U.S. equity markets is (-.26) by Epps (1976) suggesting that a 100% increase in trading costs would reduce the volume of transactions by 26%.<sup>9</sup> The transactions costs paid in 1999 for equity trades by institutional investors in the United States averaged 28.5 basis points. Adding a transactions tax of 13.5 basis points would raise transactions costs by 50% leading to an estimated decline in total transactions of 13%. Since the actual magnitude of the elasticity of all transactions has never been empirically estimated, we proceed to consider what the effective APT tax base would be under a wide range of scenarios.

### **Effective Tax Base and Final APT Tax Rate**

Table 2 displays alternative scenarios for the United States of the potential decline in the initial volume of total transactions (Figure 1) and the corresponding APT tax rates required to achieve the revenue neutral target of \$1821 billion derived in Table 1. The simulation suggests that a 50 percent decline in the aggregate volume of initial transactions would require revenue neutral APT tax rate of 0.54 percent per transaction, shared equally between the buyer and seller. A 50 percent decline in overall transaction volume would return the United States to the level of transaction activity that prevailed in the 1992.

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<sup>9</sup> The transactions elasticity that would apply to the APT tax would be lower since the breath of the APT tax eliminates many substitutes that were available to the markets for which the Epps elasticity estimates apply. Professor Edgar L. Feige (elfeige@wisc.edu)– APT Tax Proposal

Table 2: Effective APT Tax Base and Required Revenue Neutral APT Tax Rates-2002

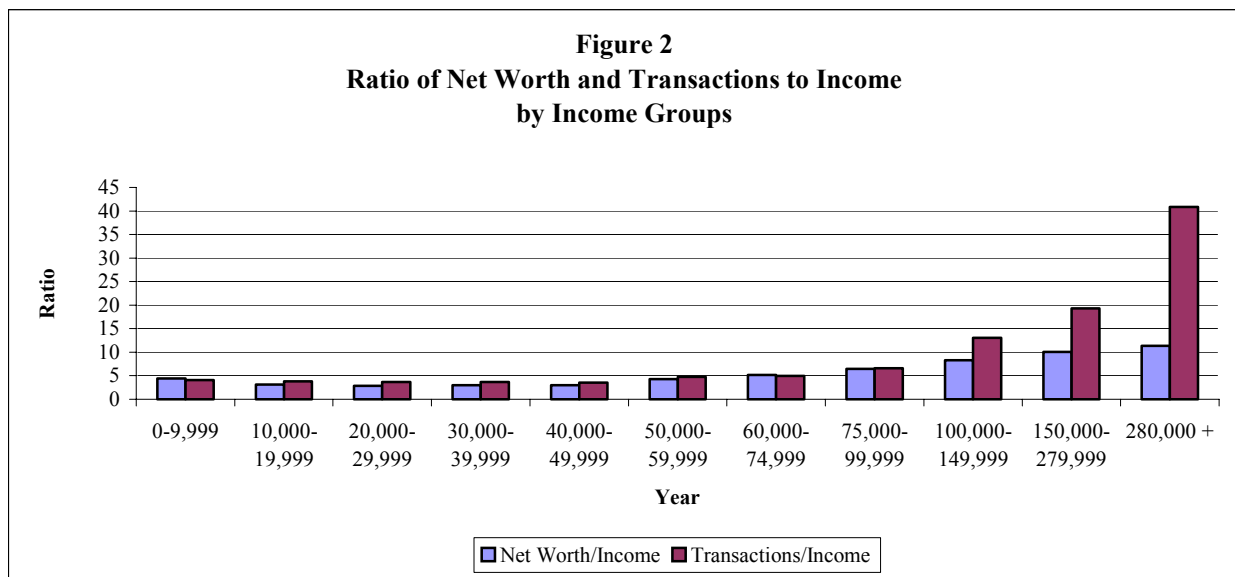
Data

| Potential Percentage Reduction in Initial Total Payments |       |       |       |       |       |       |       |
|--|-------|-------|-------|-------|-------|-------|-------|
|  | 10%   | 20%   | 30%   | 40%   | 50%   | 60%   | 70%   |
| Effective Tax Base (\$Trillion)                          | \$606 | \$539 | \$472 | \$404 | \$337 | \$270 | \$202 |
| Tax Rate Per Transaction (%)                             | 0.30  | 0.34  | 0.39  | 0.45  | 0.54  | 0.67  | 0.90  |
| Tax Rate Per Transactor (%)                              | 0.15  | 0.17  | 0.19  | 0.23  | 0.27  | 0.34  | 0.45  |

Source: Author’s calculations

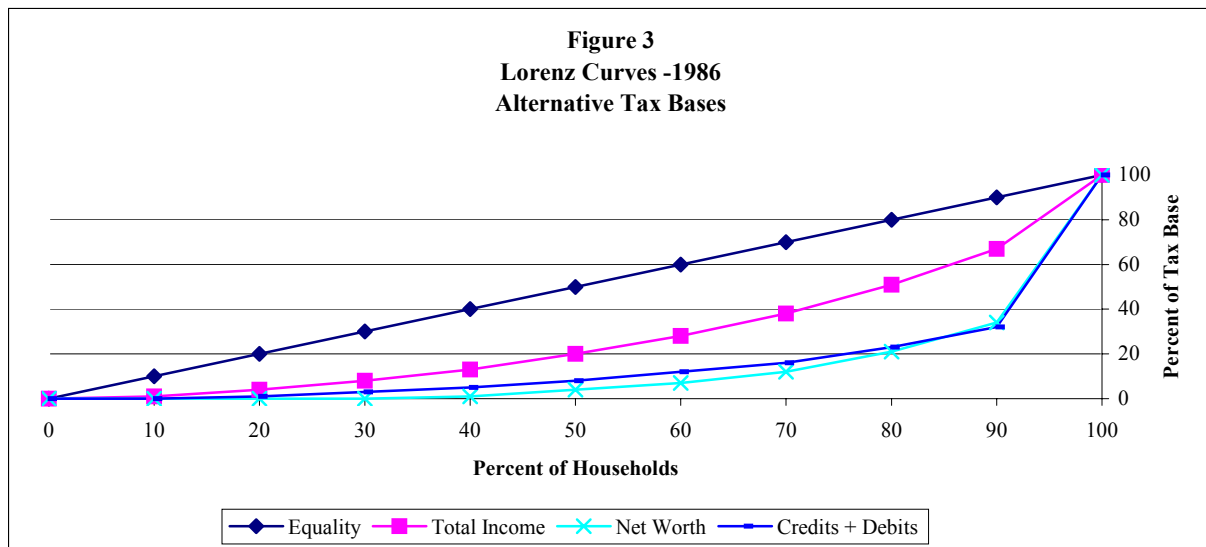
**Distribution of the Tax Burden**

Simulations of the transactions patterns of U.S. households can be derived from their wealth composition, as revealed in the Federal Reserve’s Survey of Consumer Finances. Applying appropriate turnover rates to each category of assets and liabilities held in household portfolios, it is possible to simulate the volume of transactions (credits and debits) undertaken by households in different income classes.



Source: Author’s simulations based on Federal Reserve Survey of Consumer Finances

Figure 2 displays the simulated ratios of transactions to income, by income classes. Higher income groups account for the largest proportion of transactions, implying that they would pay a greater proportion of the tax than lower income groups. Figure 3 displays the estimated Lorenz Curves for the distributions of total income, net worth and total transactions (credits and debits) based simulations from the 1986 Survey of Consumer Finances (SCF). The Lorenz Curves reveal the highly skewed nature of the APT tax base. Since both net worth and total transactions are much more highly skewed than the income distribution, a switch to the APT tax will promote a progressive tax structure through the skewness of the tax base rather than through a progressive schedule of tax rates. This claim cannot legitimately be made by any of the other flat tax rate proposals. Since the distribution of income and wealth has become more highly skewed in the last decade, we regard this simulation as a lower bound estimate of distributional impact.

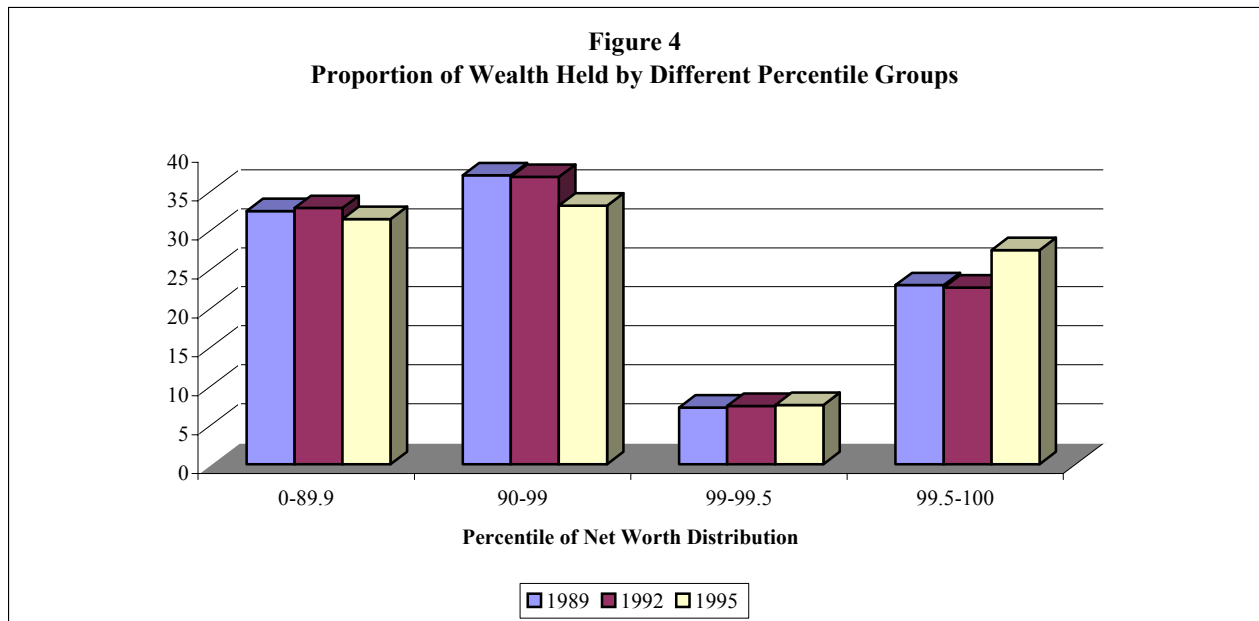


Source: Author's simulations based on Federal Reserve Survey of Consumer Finances

Figure 4 displays the wealth distribution by different wealth percentiles for different years of the SCF. In 1995, the first 90 percent of the wealth owning distribution owned only 30 percent of wealth whereas the top half of one percent of the distribution owned more than 25 percent of total wealth. The skewness in the distribution of overall wealth is also revealed when examining the distribution of the composition of wealth by particular asset categories. The distributions of

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particular asset categories display the same skewness as the distribution of overall net wealth and payments. Therefore, a flat tax on payments will assure equity even though all transactions are taxed at the same flat ad valorem rate.



Source: Federal Reserve Survey of Consumer Finances