Effects of Imposing a Value Added Tax to Replace Payroll or Corporate Taxes

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March 18, 2010
Joint Project with New America Foundation
Topics

• Review of the Three Tax Bases
• TPC Estimating Methodology
• Revenue Effects (Static)
• Distributional Effects
• Economic Effects and Behavioral Responses
Different Ways of Taxing Final Consumption

- **Retail Sales Tax (RST)**
  - Tax paid on sales to final domestic consumers
  - Business to business sales exempt

- **Subtraction-Method VAT (BTT)**
  - All businesses pay tax on value of sales less purchases from other businesses
  - Exports exempt, but must also rebate tax on intermediate goods

- **Credit-Invoice VAT (GST)**
  - Firms pay tax on value of all domestic sales and pass on tax invoices to business purchases
  - Firms claim credits for purchases from other firms

- For all three methods, the tax base equals domestic consumption
Example – 10% Sales Tax on Bread

<table>
<thead>
<tr>
<th>Price</th>
<th>No Tax</th>
<th>RST</th>
<th>BTT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmer</td>
<td>$300</td>
<td>$300</td>
<td>$330 ($30)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$330 ($30)</td>
</tr>
<tr>
<td>Miller</td>
<td>$700</td>
<td>$700</td>
<td>$770 ($40)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$770 ($70-$30)</td>
</tr>
<tr>
<td>Baker</td>
<td>$1,000</td>
<td>$1,100 ($100)</td>
<td>$1,100 ($30)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$1,100 ($100-$70)</td>
</tr>
<tr>
<td>Total Tax</td>
<td>0</td>
<td>$100</td>
<td>$100</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$100</td>
</tr>
</tbody>
</table>
Example: Removing the Bread tax

<table>
<thead>
<tr>
<th></th>
<th>RST</th>
<th>BTT</th>
<th>VAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmer</td>
<td>No change</td>
<td>Exempt sales</td>
<td>No change</td>
</tr>
<tr>
<td>Miller</td>
<td>No change</td>
<td>Exempt sales</td>
<td>No change</td>
</tr>
<tr>
<td>Baker</td>
<td>Exempt sales</td>
<td>Exempt sales</td>
<td>Zero-rating</td>
</tr>
</tbody>
</table>
## Effect of Exemptions

<table>
<thead>
<tr>
<th></th>
<th>RST</th>
<th>BTT</th>
<th>VAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmer</td>
<td>No effect</td>
<td>$30 tax cut</td>
<td>No change</td>
</tr>
<tr>
<td>Miller</td>
<td>No effect</td>
<td>$40 tax cut</td>
<td>$30 tax increase</td>
</tr>
<tr>
<td>Baker</td>
<td>$100 tax cut</td>
<td>$30 tax cut</td>
<td>$30 tax cut</td>
</tr>
</tbody>
</table>
The U.S. Payroll Taxes

- Taxes on wages
  - 12.6% OASDI tax up to ceiling wage ($106,800 in 2009)
  - 2.9% HI tax on all wages
- Collected half from employers and half from employees
  - Employer share is deductible from income tax
- Self-employed pay equivalent total tax
  - Applies to 92.35 percent of self-employment income
  - One-half of tax deductible from income
- Individuals pay self-employment tax on business, partnership, and farm income
The U.S. Corporate Income Tax

- 35% maximum rate on profits
  - State taxes raise average rate to about 39%
- Tax base differences from VAT
  - Wages and interest deductible
  - Capital purchases not immediately deductible
  - Double taxation of equity income
  - Source instead of destination-based
- Complex international rules
  - Mostly acts as tax on profits from investments located in the United States
# Economic Distortions

<table>
<thead>
<tr>
<th>Distortion</th>
<th>VAT</th>
<th>Payroll Tax</th>
<th>Corporate Tax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor supply</td>
<td>Yes</td>
<td>Yes</td>
<td>Future goods</td>
</tr>
<tr>
<td>Saving</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Goods consumed</td>
<td>Usually yes</td>
<td>No</td>
<td>Usually yes</td>
</tr>
<tr>
<td>Capital allocation</td>
<td>No</td>
<td>No</td>
<td>Usually yes</td>
</tr>
<tr>
<td>Form of business</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Financing</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>
# Imposition of Taxes

<table>
<thead>
<tr>
<th>Tax Instrument</th>
<th>Sources</th>
<th>Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumption Taxes</td>
<td>Wages, economic profits, and old capital</td>
<td>Taxable goods and services only</td>
</tr>
<tr>
<td>Payroll taxes</td>
<td>Wages and self-employment income</td>
<td>No differences among uses</td>
</tr>
<tr>
<td>Corporate income taxes</td>
<td>Returns to equity capital</td>
<td>Corporate sector and capital-intensive goods taxed more</td>
</tr>
</tbody>
</table>
Revenue Estimating Methodology

• VAT
  – Multiply rate by taxable consumption
  – Broad and narrow bases (79% and 50% of consumption)
  – GDP fixed = lower income and payroll tax receipts (27% of VAT)
  – Adjustment for non-compliance (15%)

• Payroll tax
  – Simulations with TPC individual income tax model

• Corporate income tax
  – Apply percentage rate cut to CBO baseline projection
VAT Bases Estimated

• Start with all Consumption
• **Broad base** excludes:
  – Education
  – Government-funded health care
  – Services of charities and sub-national govts.
• **Narrow base** also excludes:
  – Housing consumption
  – Food consumed at home
  – Private medical expenses
Revenue Effect of a 5 percent VAT in 2012

Source: Tax Policy Center.
Revenue Effect of a 5 Percent VAT in 2012 as a Percentage of GDP

Source: Tax Policy Center.

Tax Policy Center | www.taxpolicycenter.org
Corporate or Employer OASDI Tax Rates under Three VAT Options

Source: Tax Policy Center.

Tax Policy Center | www.taxpolicycenter.org
Distributional Estimates: Incidence Assumptions

- Corporate tax falls on capital income
- Payroll tax falls on labor income
- Consumption tax: sources
  - \((L/C)\) percent falls on wages
  - \((C-L)/C\) percent falls on wealth
- Consumption tax: uses (nets to zero)
  - Higher (lower) burdens for people based on relative ratio of taxable to all consumption
Alternative Method

• Allocate burden based on ratio of consumption to income in CEX

• Why we did not do this:
  – Underreporting of income at bottom of distribution and top-coding in CEX
  – Private transfers may support consumption
  – One year’s data not representative of long-run C/Y ratios
  – Implausibly high consumption in bottom quintile (more than twice income)
Effects of a 5 percent VAT with No Offset on After-tax Income, 2012

Source: Tax Policy Center.

Tax Policy Center | www.taxpolicycenter.org
Effects of a 5 percent VAT with Payroll Tax Reduction on After-tax Income, 2012

Source: Tax Policy Center.
Effects of a 5 percent VAT with Corporate Tax Reduction on After-tax Income, 2012

Source: Tax Policy Center.

Tax Policy Center | www.taxpolicycenter.org
Effects of a 5 percent VAT with Payroll and Corporate Tax Reduction on After-tax Income, 2012

Change in After-tax Income

Source: Tax Policy Center.

Tax Policy Center | www.taxpolicycenter.org
Effects of a Broad-based 5 percent VAT with a Refundable Credit on After-tax Income, 2012

Source: Tax Policy Center.

Tax Policy Center | www.taxpolicycenter.org
Comparison of Effects on After-tax Income of a Broad-based 5 percent VAT and an 8 percent Narrow-based VAT

<table>
<thead>
<tr>
<th>VAT Option</th>
<th>Change in After-tax Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottom Quintile</td>
<td>-1.5%</td>
</tr>
<tr>
<td>Second Quintile</td>
<td>-1.0%</td>
</tr>
<tr>
<td>Middle Quintile</td>
<td>-0.5%</td>
</tr>
<tr>
<td>Fourth Quintile</td>
<td>0.0%</td>
</tr>
<tr>
<td>80-90th Percent</td>
<td>-3.5%</td>
</tr>
<tr>
<td>90-95th Percent</td>
<td>-3.0%</td>
</tr>
<tr>
<td>95-99th Percent</td>
<td>-2.5%</td>
</tr>
<tr>
<td>Top 1 Percent</td>
<td>-2.0%</td>
</tr>
<tr>
<td>All Tax Units</td>
<td>-1.5%</td>
</tr>
</tbody>
</table>

Source: Tax Policy Center.
Economic Effects: VAT versus Payroll Tax

- Both taxes exempt return to new saving
- Both taxes hit labor income
  - Payroll tax reduces after-tax wage
  - VAT reduces real wage
  - But some of VAT falls on economic profits and old capital, so its burden on labor is less per dollar of revenue than a payroll tax
- VAT may distort choices among consumer goods, payroll tax does not
Effective tax rate on wages: Using 5% VAT to reduce employer OASDI Tax

<table>
<thead>
<tr>
<th>Tax Rates</th>
<th>15% MTR</th>
<th>25% MTR</th>
<th>35% MTR</th>
</tr>
</thead>
<tbody>
<tr>
<td>No VAT and current payroll tax</td>
<td>28.1%</td>
<td>37.4%</td>
<td>37.4%</td>
</tr>
<tr>
<td>3.93% VAT and lower OASDI tax</td>
<td>26.9%</td>
<td>36.3%</td>
<td>39.8%</td>
</tr>
</tbody>
</table>
Economic Effects of Corporate Rate Reduction

- Economic Benefits
  - More domestic investment
  - Reported income shifted to U.S.
  - Less investment distortions

- Gains reduced if other countries respond

- Erosion of individual income tax base
  - Accrue income within corporations
  - Shift reported income from labor compensation to profits
Compliance and Administration

• Compliance burdens of VAT lower than income tax
  – Collected only from business taxpayers
• But adding VAT on top of existing taxes would raise compliance costs
  – Argues for fairly large VAT or none at all
• May be somewhat less evasion
  – But VAT is not fraud proof
Conclusions

• Credit-invoice form of VAT superior to alternatives
• Distribution roughly proportional, but regressive at the top
  – Exemptions make it less regressive, but refundable credits more effective tool
  – VAT slightly more progressive than payroll tax
  – VAT less progressive than corporate income tax
• Different economic effects
  – Slightly less burdensome to work than payroll tax
  – Much less burdensome to investment than corporate tax
  – In globalized economy, may want to shift to tax system that relies less on capital income taxation