The BAT and the VAT: Similarities and Differences

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Background: Common misperception that border adjustment on value added tariff (VAT) is protectionist

“Let me give you the example of Mexico. They have a VAT tax. We’re on a different system. When we sell into Mexico, there’s a tax... 16 percent, approximately. When they sell into us, there’s no tax. It’s a defective agreement.” Donald Trump, September debate

My presentation will argue:

- VAT offset at border is not a tariff
- Border Adjusted Cast Flow Tax (BAT) is not a VAT
- Real exchange rate will neutralize border adjustment
- But, short-run dynamics of implementing BAT are complex
A VAT is a sales tax collected by the producer

Assume 20% VAT
Sells leather $5 = collects $1 VAT

Sells football $10 = collects $2 VAT
Gets refund of $1 for leather
A VAT is a tax on final consumption, like a sales tax

VAT is 16%

Everything sold in Mexico gets taxed 16%

Exports are not sold in Mexico—not taxed & receive rebate for intermediate taxes paid.
VAT rates are not correlated with Trade Surpluses

Source: OECD and World Bank
The BAT is a cash flow tax collected by the producer

Sells leather $5
- Labor costs $3
Tax base = $2
Tax = 20% * $2 = $0.40

Sells football $10
- Leather costs $5
- Labor costs $2
Tax base = $3
Tax = 20% * $3 = $0.60
The BAT is collected by the producer

Sells leather $5
- Labor costs $3
Tax base = $2
Tax=20%*2=$.40

Sells football $10
- Leather costs $5
- Labor costs $2
Tax base= $3
Tax=20%*3=$.60

Total Tax $1
What happens if intermediates are imported?

Sells football $10
Imported leather $5
- Labor costs $2
Tax base = $8
Tax = 20% * $8 = $1.60
What happens if intermediates are imported?

Sells football $10
Imported leather $5
- Labor costs $2
Tax base = $8
Tax=20%*$8=$1.60

Total tax $1.60
Tax rates vary across firms and industries

Imports face higher tax rates.
Firms using imported inputs face higher tax rates.
Industries with higher labor share face lower tax rates.

<table>
<thead>
<tr>
<th>Labor share</th>
<th>Imported football</th>
<th>Integrated producer</th>
<th>Domestic producer</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>20%</td>
<td>16%</td>
<td>10%</td>
</tr>
<tr>
<td>Zero</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
</tr>
</tbody>
</table>
Labor Share and Net Exports

Source: BLS and US Census Bureau
Labor Share and Net Exports

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But, real exchange rate will adjust to offset

- Firms prefer to export because no tax
  - Export supply increases, more demand for $ to buy exports
  - Less supply in US, domestic prices rise
- Firms don’t want to import because of taxes
  - Import demand decreases, less demand for foreign currency to buy imports
  - Import prices are higher, domestic price rises
- These forces appreciate real exchange rate
- Trade flows, saving and investment were in equilibrium before border adjustment, so real exchange rate should adjust to exactly offset tax
What happens if exchange rate adjusts?

Domestic Producer
- Sells football $10
  - Leather costs $5
  - Labor costs $2
- Tax base = $3
- Tax = 20% * 3 = $0.60
- After tax profit = $2.40

Integrated Producer
- Sells football $10
  - No ER adjustment:
    - Leather costs $5
  - With ER adjustment
    - Leather cost $4
- Labor costs $2
- Tax base = $8
- Tax = 20% * $8 = $1.60
- After tax profit = $1.40 or $2.40
Exchange rate adjustment under a BAT could be messy

- Effect with VAT is transparent – prices go up almost one-for-one. There is even a name for it “full forward shifting”.
- VATs are uniform across firms and industries during transition, so even if there is a delay, there are no preferences.
- Transition to a BAT is unchartered territory & 20% requires a large move
  - Theory suggests same forces at work, BUT
  - Price increase is not transparent and FED may not accommodate
  - Exchange rate markets move mainly by traders, especially for dollar
  - Some exchange rates are fixed or managed
  - (Wealth effects)
- Without exchange rate adjustment, border tax discriminates across industries – not the case with a VAT.