Estimating Revenues
Puerto Rico
New Sales and Use Tax

Edwin R. Ríos
Assistant Secretary
Office of Economics and Financial Affairs
Treasury Department of Puerto Rico

September 18, 2007
Raleigh, North Carolina

Agenda

I. Overview of Puerto Rico’s Economy
II. Tax System comparison with United States
III. Objective of Tax Reform
IV. Sales and Use Tax Base
V. Estimating Sales Tax Revenues
   A. Model Structure
   B. Data Base
   C. Problems Estimating Revenue
VI. Results and Conclusions
I. Overview of Puerto Rico’s Economy
Puerto Rico Overview

- Puerto Rico is the fourth largest of the Caribbean Islands. Is located 1,000 miles south-east of Florida. It is about 3,500 square miles.

- Since 1898, after the end of Spanish-American War, Puerto Rico became a non incorporated territory of United States. A Commonwealth Constitution was approved by the people of Puerto Rico in 1952.

- The Puerto Rican government has autonomy for fiscal policy, which imply the development of collection mechanism from internal sources.

II. Tax System comparison with United States
Puerto Rico Economic Indicators 2006

<table>
<thead>
<tr>
<th>Index</th>
<th>Amount</th>
<th>US Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross National Product</td>
<td>$56.6 billions</td>
<td>48</td>
</tr>
<tr>
<td>General Funds Revenues</td>
<td>$8.5 billions</td>
<td></td>
</tr>
<tr>
<td>Population</td>
<td>3.9 millions</td>
<td>27</td>
</tr>
<tr>
<td>Per- Capita Income</td>
<td>$12,997</td>
<td>51</td>
</tr>
</tbody>
</table>

Retail Performance in Puerto Rico

-The vast majority of major US retailers have stores in Puerto Rico:

- Puerto Rico is one of the leaders in sales of some stateside chains stores such as: Walmart, K-mart, Macy’s, Pep Boy’s, Sam’s Club, Costco and Home Depot.

- JC Penney and Sears stores located in Puerto Rico are the nationwide leaders in volume and profitability.

- Two of Western Auto’s top US outlets as well as Marshall’s have two of their top stores in Puerto Rico.

- Walgreens and Rooms To Go stores have also achieved number one positions in sales.

*Source: Caribbean Business, March 8, 2007*
Puerto Rico Tax Structure

- Tax Revenue is derived from three major sources: personal income, corporate and excise taxes.
- Puerto Rico generates more revenue from its corporate income tax (as a percentage of total revenue) and less from excise taxes, as compared with the average US state.
- Taxes, as a percentage of total income, are higher in Puerto Rico than in a typical US state. However, it is comparable with some foreign countries.

Taxes Distribution - 2002

<table>
<thead>
<tr>
<th>Categories</th>
<th>U.S. National Average %</th>
<th>Puerto Rico %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
<td>22.4</td>
<td>37.2</td>
</tr>
<tr>
<td>Corporate</td>
<td>3.1</td>
<td>33.0</td>
</tr>
<tr>
<td>Sales and Gross Receipts</td>
<td>35.8</td>
<td>12.8</td>
</tr>
<tr>
<td>Property</td>
<td>30.8</td>
<td>0.0</td>
</tr>
<tr>
<td>Motor Vehicle</td>
<td>1.9</td>
<td>6.5</td>
</tr>
<tr>
<td>Others</td>
<td>5.0</td>
<td>10.5</td>
</tr>
</tbody>
</table>

Source: The Economy of Puerto Rico: Restoring Growth, Center for the New Economy and Brookings Institution 2006 and Puerto Rico Treasury Department.
III. Objective of Tax Reform

Fiscal Goals of the Tax Reform

- Improve the financial health of the Commonwealth Government
- Broaden the tax base
- Reduce tax evasion
- Shift tax burden from income to consumption
- Provide income tax relief to most taxpayers
- Make the tax system more convergence with economic growth

Fiscal policy to comply with these fiscal goals resulted in the approval of a broad-based consumption tax.

- Provide income tax benefits to individuals.
- Introduced a Commonwealth-wide Sales and Use Tax (“SUT”) 7% tax rate of SUT:
  - 4.5% is assigned to General Fund
  - 1% is for repayments of debt to GDB, and
  - 1.5% is allocated to Municipalities
- Simultaneously a 5% General Excise Tax was repealed.

IV. Sales and Use Tax Base
Tax Base: Sales and Use Tax vs. General Excise Tax

- Applies to a comprehensive range of goods and services, as compared with the General Excise Tax.

- The taxable price on articles that were subject to the General Excise Tax was based on imports and manufacturing costs. On the other hand, the SUT applied on final sales price to consumers.

Sales and Use Tax Base

- The SUT is imposed on the sales, use, consumption, and storage of taxable items, which include tangible property, taxable services, and admission rights.

- In general, the SUT excludes articles and services: merchandise acquired for resale, items purchased by manufacturing plants, goods and services for export, prescription drugs, leases of real property, food, financial services, and health services.
V. Estimating Sales Tax Revenues
   A. Model Structure
   B. Data Base
   C. Problems Estimating Revenue

Estimating Sales Tax Revenues (Simple Method)

- Use the information from the National Income Accounts related with personal consumption expenditures.

- From the total consumption expenditures, it was subtracted the amounts attributable to exempted goods (e.g., health, financial services, public transport). Then, it was multiplied the resulting tax base by the applicable tax rate.

- In practice, no jurisdiction ever reaches 100% compliance. We considered 65% as a reasonable figure.

- Total tax revenues from this analysis amounted to $829 million.
Estimating Sales Tax Revenues from Personal Consumption

### Simple Method

<table>
<thead>
<tr>
<th></th>
<th>$ millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Consumption Expenditures</td>
<td>42,905</td>
</tr>
<tr>
<td>Less: Exempted Goods and Services</td>
<td>30,334</td>
</tr>
<tr>
<td>Consumption Tax Base</td>
<td>12,571</td>
</tr>
<tr>
<td>Tax Rate 5.5% @ 65% compliance (FY04)</td>
<td>691</td>
</tr>
<tr>
<td>Growth Factor for FY 2007  = 1.20</td>
<td>829</td>
</tr>
</tbody>
</table>

Source: P.R. Planning Board

---

Model Structure

- The Treasury Department, for the calculations, uses a general equilibrium model developed by BearingPoint.
- The Consumption Tax Model (CTM) is an input-output-based model:
  - The model is a snapshot of the circular flow of incomes and expenditures in the economy.
  - It provides a detailed data-consistency framework for analyzing revenue.
  - Also, simulates the effect of proposed changes in the current tax structure.
Data base

- Economic data used to prepare the CTM.
  - 2002 - Income and Product Accounts from P.R. Planning Board.
  - Data from U.S. Census Bureau.
  - P.R. Treasury Department – indirect tax collection data.

- Input-Output matrix was updated using RAS methodology.

- Results were extrapolated to FY 2007 using a compound consumption growth rate.

Problems of Estimating Sales Tax Revenues

- However, there are limitations with the data that affect the estimation.

- These difficulties are related with the measuring of imports to define tax base and compliance.

- This is relevant because Puerto Rico is an open economy.
Estimating Sales Tax Revenues

• There are two ways of calculating imports:
  
  ◦ The “direct method”: relies on direct measurement of “registered imports”.
  
  ◦ The “implicit method”: works backwards from final demand to the imported inputs necessary to produce this final demand. This is known as “adjusted imports”.

• There is a gap between these two methods of 15% or $6 billions in 2004.
  
  ◦ This figure is identified as “other adjustments” in the Balance of Payments Accounts.

Estimating Sales Tax Revenues

• Even we are confident about the level of domestic compliance, there are still uncertainty about sales tax collections, which depend on the quantity of “adjusted imports”.

• Considering the uncertainty of the size of imports and the policies that would be followed with respect to implementation; we prepared three scenarios rather than a single estimate.
### Alternative Estimate for 5.5% Sales Tax Collections

**Scenarios - 2007**

<table>
<thead>
<tr>
<th>Estimated</th>
<th>Lower</th>
<th>Medium</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collections (millions)</td>
<td>$780</td>
<td>$890</td>
<td>$1,050</td>
</tr>
<tr>
<td>Import Compliance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Registered</td>
<td>65%</td>
<td>85%</td>
<td>85%</td>
</tr>
<tr>
<td>Adjusted</td>
<td>0%</td>
<td>0%</td>
<td>85%</td>
</tr>
<tr>
<td>Domestic Compliance</td>
<td>65%</td>
<td>65%</td>
<td>65%</td>
</tr>
</tbody>
</table>

### Estimating Sales Tax Revenues

- Medium and upper estimates are higher than the simple estimate derived from personal consumption expenditure.
- The divergence is due to taxes paid by businesses with imports classified as “adjusted” (imports inputs necessary to produce final demand).
Monthly Distribution of SUT Estimate

- For 2007, SUT collections include 7.5 months (Nov 15 to June 30). The annual estimate was distributed in monthly basis using a seasonal index.

  - The index was based in the monthly retails sales survey between 1995 and 2004.

- The 7.5 months represents 63% of annual collections.

  - $1,050 * .63 = $662 millions

VI. Concluding Remarks
Estimate Revenue vs. Actual Collection
General Fund (November - June)

Millions $

<table>
<thead>
<tr>
<th>Month</th>
<th>Estimate Revenues</th>
<th>Actual Revenues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nov 2006</td>
<td>46.7</td>
<td>50.2</td>
</tr>
<tr>
<td>Dec 2006</td>
<td>112.7</td>
<td>110.0</td>
</tr>
<tr>
<td>Jan 2007</td>
<td>94.1</td>
<td>95.0</td>
</tr>
<tr>
<td>Feb 2007</td>
<td>79.8</td>
<td>80.2</td>
</tr>
<tr>
<td>Mar 2007</td>
<td>82.2</td>
<td>96.4</td>
</tr>
<tr>
<td>Apr 2007</td>
<td>81.3</td>
<td>86.7</td>
</tr>
<tr>
<td>May 2007</td>
<td>88.5</td>
<td>94.4</td>
</tr>
<tr>
<td>Jun 2007</td>
<td>86.0</td>
<td>96.4</td>
</tr>
</tbody>
</table>

* SUT only during 15 days of Nov.

Sales and Use Tax Revenue (Nov. – Jun. 2007)

$662 7.7% $713

5.5% original estimate
Actual Collections

Sales and Use Tax Revenue vs. General Excise Tax Revenue

(millions $)

$50 $52 $47 $38 $45 $46 $43 $44

NOTE: Excise Tax collection belongs to 2006.

Concluding Remarks

❖ With lack of historical data, the Department of the Treasury was able to prepare accurate projections of sales tax collections.

❖ By using figures of personal consumption, the estimates were lower relative to actual value.

❖ Nevertheless, projections of sales tax were significantly accurate when used the model of adjustment of imports.

❖ Finally, the monthly retail sales were an excellent indicator to predict monthly collections on sales tax.
Puerto Rico Treasury Department

- **E-Mail**: [www.hacienda.gobierno.pr](http://www.hacienda.gobierno.pr)

- **Phone Numbers**: (787) 724-0559 ó Fax (787) 721-0452

- **Address**: Puerto Rico Treasury Department  
  Office of Economic and Financial Affairs  
  Intendente Ramirez Bldg.  
  Paseo Covadonga #10  
  PO Box 9024140  
  San Juan, PR 00902-4140