Standard error: Silver as commodity or money?

Alejandra Irigoin
Leverhulme RF 2017 - 570
TOFLIT 18
Paris Dauphine 2017
Standard Error

• Silver grains denominated prices & wages for int’l comparisons; measure market integration but silver was not worth the same everywhere, nor its relative price in goods/gold did converge

• Global monetary historians arbitrage between gold silver ratio

• Gold/silver ratios persisted or abated in Asia and imports continued however even when they balanced

• Implication for Sp America source of world silver until mid 19C
Adam Smith

• Silver ‘was one of the principal commodities by which the commerce between the two extremities of the old (continent) is carried on, and by means of it, in great measure, that those distant parts of the world are connected with one another’ (book IV part III p 287).

• Moreover, ‘what has been said of the East India Trade might possibly be true of the French; that though the greater part of the East India goods were bought with gold and silver, the re-exportation of a part of them to other countries brought back more gold and silver to that which carried on the trade that the prime cost of the whole amounted to’. (book 4 chap 3 p 621-25, 619).

• Europe had received ‘general advantages .. in the increase of its enjoyments and in the augmentation if its industry’ [ book iv ch iii p 780].

• It was the ‘gradual enlargement of the market for the produce of silver mines in America ... which has not only kept up the value of silver in the European market, but perhaps even raised somewhat higher than it was about the middle of last century’ [ book iv ch iii p 780]

• Private consumption in the New World >> Demand side factor in GD?
Silver output & exports
Silver exports

- **Size, private & coined** (specie)
  - growth faster than UK trade
  - Consumption in Sp Am?
- Europe intermediated silver in world trade
  - Arbitrage w Asia, (price takes in America?)
- No relation between exchange rate and silver / gold ratio (England)
  - different institutional set up to deal with foreign exchange and precious metals
S/£ exchange rate and silver/gold ratio London 1717 - 1805
SpAm output / UK ratio

The graph shows a scatter plot with data points representing the SpAm output ratio compared to the UK. The x-axis represents the output range, from 0 to 35,000,000, and the y-axis represents the UK ratio, from 14 to 16. The data points are scattered across the graph, indicating a trend that may suggest a correlation between the output and the UK ratio.
Exchange rates

- £/S Exchange rates: moved in favour of the peso in the 1780s in Cadiz, after 1797 in London
- *Assignats* crisis in France and return to metallic base BoF 1806
  - Flow of silver through Spain to France (Dermigny)
  - Bought 34 million francs of silver coins 1802-06
  - F/$ 4.92 at Perpignan vs 5.30 in Paris
Exchange rates ii

• 1790s England exported silver coins to Asia, sent remittances to allies in Napoleonic wars in specie – pressure on the exchange rate of silver peso
  – Nearly coined no silver in the 18C
• ‘Restriction Period’: £ sterling depreciated more to silver peso than to gold (after 1799)
Exchange rate Paris, 1802-06

E. Prunaux (2012)
SpAm trade boomed

• Boom in non precious metals exports, flood of imports (British textiles), acceleration of silver exports
• Explained by trade liberalization, more trade + freer trade – eg. by institutions!
  – Bourbon Reforms
• Affected *all* colonies alike, regardless export commodity, factor endowments and distance from/to Europe
Institutional reform?

• Without changes in transport costs and sudden improvements in productivity how to explain the growth and (im)balance of trade?
  – End of Spanish mercantilism, greater openness
  – (gains from trade in long run ?? ..... Prejudiced by political instability, eg institutions!)
  – Favourable TT from productivity gains in European manufacturing

• Outflow of silver to England/ Europe?
  – Balance of trade in UK improved? Bank reserves did by 1816
Overvaluation of exchange rate

• Real exchange rate eroded by inflation in Sp Am more than by terms of trade
  – (did not improve as price of cotton rose in Britain in the short run), prices of commodities (exports) rose in Britain during war
  – When they fell however commodity exports continued very much the same – more production with lower prices: extensive growth
  – Commodity trade boomed
Real Exchange rate

RER £ BsAs cost of living

[Graph showing the real exchange rate from 1776 to 1815.]
Real Exchange Rate

RER £ Santiago (five years index)
Implications for SpAm 1

• Overvalued exchange rates > imports inflow
• Glutted markets everywhere
  – even deep inland
• Stagnation/ decline of local textile manufacturing
• Fostered extensive production of land abundant export commodities (sugar, hides, copper …)
Cotton prices in UK / £/$ ex rate
index numbers 100= 1748-52
Cuenca (2014) South America, exc Of Mexico and inc Of Brazil made for 25% of British Exports by 1815

<table>
<thead>
<tr>
<th>Table VI</th>
<th>British Exports to Spanish America, 1790–1819: Conjectural Estimates (period averages of major components at market prices in thousands of pounds sterling)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Direct to Cuba and Puerto Rico</td>
<td>–</td>
</tr>
<tr>
<td>2. + Direct to rest of Spanish America</td>
<td>–</td>
</tr>
<tr>
<td>3. + through the British West Indies (goods)</td>
<td>489</td>
</tr>
<tr>
<td>4. + through the British West Indies (slaves)</td>
<td>86</td>
</tr>
<tr>
<td>5. + through Spain</td>
<td>703</td>
</tr>
<tr>
<td>6. = Subtotal excluding U.S. ports</td>
<td>1,278</td>
</tr>
<tr>
<td>7. + through U.S. ports</td>
<td>.365b</td>
</tr>
<tr>
<td>8. = Subtotal including U.S. ports</td>
<td>1,279b</td>
</tr>
<tr>
<td>9. + 10% of “ghost” exports in Table 1, line 5c</td>
<td>237b</td>
</tr>
<tr>
<td>10. = Total of aboved</td>
<td>1,516b</td>
</tr>
</tbody>
</table>
Implication for SpAm 2

- Favourable TT for local tradable/ non tradable goods
- Altered the trade and production in South America
- Cases: Mexico, Cuba, River Plate and Chile
- Production of exportable as long as factor of production expanded
  - Extensive growth (Cuba, River Plate)
  - By 1820: Destruction of commercial agriculture (grain importer Chile) & de-industrialization (Mexico)
- Customs: base of Republican taxation
  - Commodities source of revenues
## Cuba’ economic performance

<table>
<thead>
<tr>
<th></th>
<th>1774</th>
<th>1792</th>
<th>1817</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per capita imports (in pesos)</td>
<td>17.97</td>
<td>57.51</td>
<td>37.35</td>
</tr>
<tr>
<td>Per capita exports exc silver</td>
<td>9.41</td>
<td>38.80</td>
<td>23.63</td>
</tr>
<tr>
<td>Pc sugar exports lbs*</td>
<td>113.83</td>
<td>161.14</td>
<td></td>
</tr>
<tr>
<td>Pc coffee exports lbs*</td>
<td>0.18</td>
<td>1.24**</td>
<td></td>
</tr>
<tr>
<td>Population free (growth rate)</td>
<td>127,287</td>
<td>187,711</td>
<td>353,883</td>
</tr>
<tr>
<td>Slaves (growth rate)</td>
<td>44,333</td>
<td>84,590</td>
<td>199,145</td>
</tr>
</tbody>
</table>

Note: * volume data from 3 years period average; ** data for 1805-1820. Source Sagra (1831)
African imports

Slaves secondary market
Santiago Chile, 1773-1816

Number of Slaves introduced,
Buenos Aires 1770-1806
Chile’ wheat exports to Lima, tons
Appendix
EICo purchase of silver dollars in London

<table>
<thead>
<tr>
<th></th>
<th>Ounces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silver Pieces of Eight</td>
<td>58,916,937</td>
</tr>
<tr>
<td>Silver Ingots</td>
<td>12,954,291</td>
</tr>
</tbody>
</table>

Bank of England, 7
22th March 1810. 

William Dawes, Ch. Acc.
price paid by EICo for silver dollars

<table>
<thead>
<tr>
<th>Year</th>
<th>Per Oz.</th>
<th>Year</th>
<th>Per Oz.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1791-2</td>
<td>5 1/2</td>
<td>1802-3</td>
<td>5 1/2</td>
</tr>
<tr>
<td>1792-3</td>
<td>5 6</td>
<td>1803-4</td>
<td>5 6</td>
</tr>
<tr>
<td>1793</td>
<td>5 1/2</td>
<td>1804-5</td>
<td>5 3/4</td>
</tr>
<tr>
<td>1794</td>
<td>5 1/2</td>
<td>1805-6</td>
<td>5 5/4</td>
</tr>
<tr>
<td>1795</td>
<td>5 3/4</td>
<td>1806-7</td>
<td>5 5</td>
</tr>
<tr>
<td>1796</td>
<td>5 7/8</td>
<td>1807-8</td>
<td>5 4</td>
</tr>
<tr>
<td>1800-1</td>
<td>5 9</td>
<td>1808-9</td>
<td>5 5</td>
</tr>
<tr>
<td>1801-2</td>
<td>5 9</td>
<td>1809-10</td>
<td>None purchased</td>
</tr>
</tbody>
</table>