Debt and crises in the 16th century super-power

Ec 764

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April 17, 2024

Frame

- Inter-temporal taxation / public debt

- 16th century: Spain super-power, debt/GDP reached $> 50\%$

- Chance meeting / background

- Requirement of real archival work

Economists' view

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Table 2. The Early External Defaults: Europe, 1300–1799		
Country	*Years of default*	*Number of defaults*
Austria	1796	1
England	1340, 1472, 1594*	2*
France	1558, 1624, 1648	
	1661, 1701, 1715	8
	1770, 1788	
Germany (Prussia)	1683	1
Portugal	1560	1
Spain	1557, 1575, 1596,	6
	1607, 1627, 1647	

Sources: MacDonald (2006), Reinhart, Rogoff and Savastano (2003) and sources cited therein. The "*" for England denotes our uncertainty at this time about whether its default was on domestic or external debt.

Spain's defaults establish a record that remains as yet unbroken. Indeed, Spain managed to default seven times in the nineteenth century alone, after having defaulted six times in the preceding three centuries.

Economists' view

- *Lending to the borrower from hell: debt, taxes, and default in the age of Philip II.* (Drelichman/Voth)

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The debt: archives of Simancas

- Long-term, perpetuals/life annuities, funded (mortgage on specific taxes), 85-90% of the debt, never default.

- Short-term (1-3 years), merchant-bankers, most of them based in Genoa, 3 suspensions of payment

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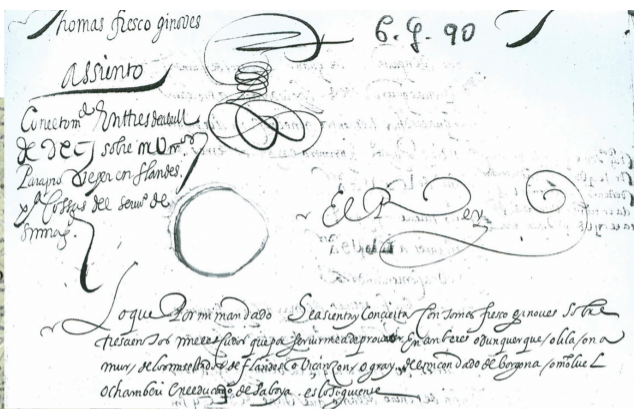
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The Fiesco contract, 3/4/91

Lo que por mi mandado se asienta y concierta con Tomás Fiesco ginoves sobre trescientos mil escudos que por servirme a de proveer en Amberes o Dunquerque o Lila o Namur de los mis estados de Flandes,

o Viçanzon o Gray del mi condado de Borgoña,

o Monluel o Chamberi en el ducado de Saboya es lo siguiente:

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The argument

- Credit market: the fairs

  ❏ A question

- Short-term and long-term debt: the theory

- Conversion of Short-term into long-term debt: the Maluenda contract (1595)

- The tax base to service the long-term debt: the tax structure

- The constraint on the long-term debt and the political struggle

- A model

Ferias (commercial fairs)

- Valladolid: capital before P2
  - Castle of Simancas (archives of P2)

- Escorial

- Medina del Campo
  - Bi-annual fairs (1-3 months)

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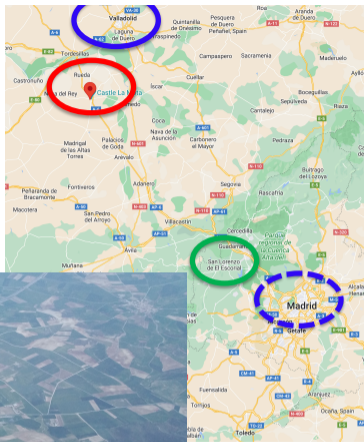
Fairs as clocks

- Twice a year

- Economies of scale in trade

- Lasts 2-3 months

- Credit contracts with a delivery date attached to a fair
  - Local banks in between

- Trade needs credit and credit needs trade

- A fair can be skipped by then it will merged with another fair.

- All fairs must take place, eventually.
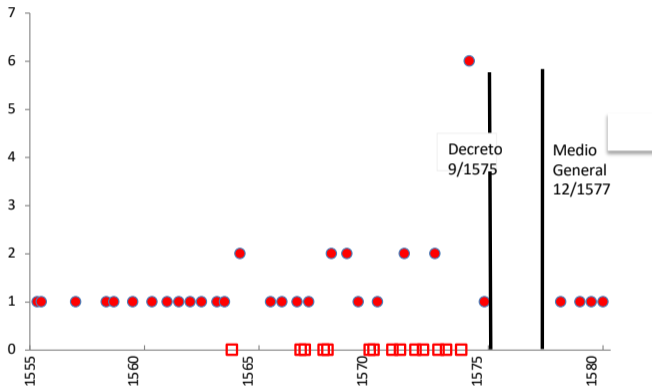
The long-term debt: theory

- Theory: Barro, R. J. (1979). "On the Determination of the Public Debt," *Journal of Political Economy*, 87(5).

    A public debt theory is constructed in which the Ricardian invariance theorem is valid as a first-order proposition but where the dependence excess burden on the timing of taxation implies an optimal time path of debt issue.

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> Debt issue would be invariant with the outstanding debt-income ratio and, except for a mirror effect, with the level of government spending. Hypotheses are tested on U.S. data since World War I.

Long-and short-term debt: theory and practice

- Permanent shocks on the budget financed by long-term debt (no fixed cost of issuing debt, only one type of financial instrument),

- Temporary shocks by short-term debt, (fixed costs of issuing long-term debt—not in the Barro model)

- Sequence of short-term shocks makes a permanent shock:
  - ❏ Refinancing short-term debt into long-term debt.

A model: fiscal policy without constraint

- Given the context, model where the flow of war spending is constant and equal to g, the war ends with a Poisson process with a fixed parameter π. Time is continuous. There is, in this section, only one debt instrument, with a fixed rate of return r, equal to the rate of discount of the government.

- Stock of the debt is denoted by D_t.

- Following Barro (1979), collecting an amount of tax z_t generates a efficienty cost $\gamma z_t^2/2$.

- At any instant t, the government minimizes the objection function

$$W_t = E\Big[\int_t^\infty e^{-r(s-t)} c_s ds\Big]. \tag{1}$$

Solution

During the war, the debt increases according to

$$\dot{D}_t = rD_t + g - z_t. \tag{2}$$

After the war,

$$z_t \equiv rD_t. \qquad \text{(constant)}|$$

The variation of the marginal cost of taxation is given by (discrete time approximation):

$$z_t = (1 - \pi\tau)(z_t + \dot{z}_t\tau) + \pi\tau rD_t.$$

In continuous time,

$$\dot{z}_t = \pi(z_t - rD_t). \tag{3}$$

Solution (2)

During the war, (D_t, z_t) is determined by

$$\begin{pmatrix} \dot{z} \\ \dot{D} \end{pmatrix} = \begin{pmatrix} \pi & -\pi r \\ -1 & r \end{pmatrix} \begin{pmatrix} z \\ D \end{pmatrix} + \begin{pmatrix} 0 \\ g \end{pmatrix} \tag{4}$$

Eigenvalues 0 and $\lambda = \pi + r$. Initial conditions D_0 and z_0. $D_0 = 0$ and z_0 is determined by

$$\int_0^\infty \pi e^{-\pi t} \int_0^t e^{-r\tau} g = \int_0^\infty \pi e^{-\pi t} \Big(\int_0^t e^{-r\tau} z_\tau d\tau + e^{-rt} D_t \Big). \tag{5}$$

(comments on the budget constraint)

Solution of the dynamic system is

$$D_t = \frac{\pi}{\pi + r} g t, \qquad z_t = \frac{r}{r + \pi} g (1 + \pi t). \tag{6}$$

During the war, both the debt and the level of taxation increases linearly with time.

Comparing the tax revenues with the debt service,

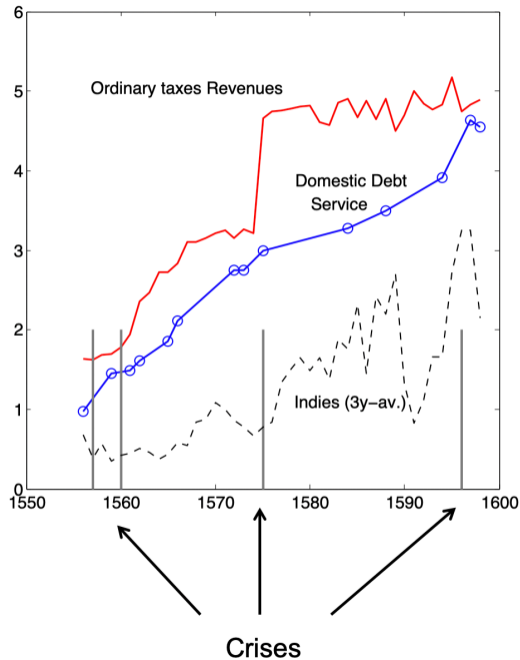$$z_t - r D_t = \frac{r}{r + \pi} g > 0 \tag{7}$$

(comments)

Fixed cost for a tax increase

- Institutional constraint: $rD \leq z$: the debt cannot be serviced by deficit.

- The cost is caused by the negotiations with the parliament.

- The constraint $rD \leq z$ becomes biting: crisis between the Crown and the parliament.

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Crises

Castile: revenues

- Pre-modern "state": composite monarchy.
  Main tax base: Castile Very little Aragon

- FRAGMENTATION

  No centralized fiscal authority

- No central administration to collect taxes:
  Delegation of the enforcement ,
  central control of verification

  - ❏ Private collectors: tax farmers
  - ❏ Cities (18)
  - ❏ Other revenues (highly variable):
  - ❏ Church, sales of land and offices,
  - ❏ Silver from the Americas.

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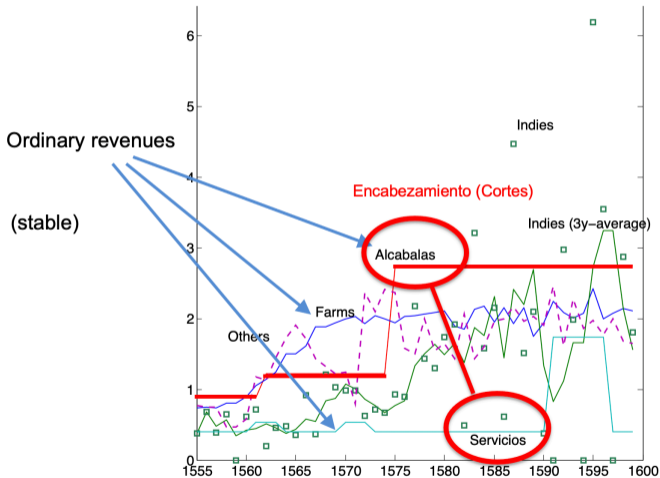
Before the main crisis (1570-75)

- Attempts by the Crown to increase taxes

- Opposition by the Cortes

- Historical account

- Imposition of the tripling of the encaberzamiento

- Returning to tax farming

- Cities disavow the delegates to the Cortes

- Not a stable situation

- Strategy of Philip II

Loans in 1575

The main crisis