Sovereign debts

- Causes of economic default?
- Manasse, Roubini, Schimmelpfennig (2003): “external debt ratios measuring solvency and debt sustainability, measures of illiquidity or refinancing risk, measures of external imbalance and debt-servicing pressures, as well as macro variables affecting the investors’ confidence and the country’s ability to service debt, macroeconomic (especially monetary) instability and some political-economy factors leading to policy uncertainty”
- Can history bring additional insights?
Causes of defaults

• On top of a large macroeconomic literature...Importance of institutions? Are some institutional features favoring or preventing default? Are some countries structurally more exposed? Do choices in terms of exchange rate policy play a role?

• Here, analysis of the impact of:
  – Institutions / Form of regimes/ Credible commitment
  – History of default (debt intolerance)
  – Currency of issue, usually imposed by the market (original sin)/ the past
Institutions

• Role of institutions
• North & Weingast (1989): analysis of new institutions created after the Glorious Revolution (1688, UK).
• Laws and respect of laws ⇋ one element leading to economic development
• Necessity of a credible commitment
  – Either by your actions
  – Or by the binding character of the laws set into place
Institutions

• North & Weingast (1989), Glorious Revolution apparition of an independent judiciary power and of a parliament with a central role (the King cannot alter much the agreements in an unilateral way)

• Comparison: before the revolution either incapacity to borrow, or need to impose forced loans, after the revolution: solvability and access to larger amounts
Institutions

- Glorious revolution also fiscal revolution
  - Old fiscal system replaced (including associated royal privileges)
  - Limitation of the Crown’s power
  - Fiscal elements under the control of the parliament and apparition of budget’s control
  - Equilibrium Parliament-Crown => limits desire of total control for each part
Institutions

- Fiscal revolution
  - Better monitoring and control for potential lenders
  - Augmentation of the number of «veto players» (actors able to force the status quo)
  - Increased perception of a credible commitment and perception that lenders’ right will be better protected
  - Interest rate decrease (14% in 1693 to 3% in 1739)
- North & Weingast (1989): seminal paper

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Institutions

• Sussman & Yafeh (2006): new institutions did not immediately lead to a lower cost of government borrowing. Rewards from institutional reforms take a long time to materialize.

• Stasavage (2007): If political parties in power favored default, then one could question the credibility of the commitment.

• Dincecco (2009) and Gelderblom and Jonker (2011): sound institutions and a credible commitment are necessary but not sufficient conditions to see interest rates decline and public debt grow.
Legal Origins

- La Porta et al. (1997 and 1998): link investor protection to the origin of the legal system in a given country
- Rajan and Zingales (2003) no obvious mechanism linking legal system and financial development. Beginning of 20th century, financial markets of common law countries not more developed than those of civil law countries. Reversal not due to legal origins but to the ability of incumbents to oppose financial development.
- Musacchio (2008): little relation between protection of lenders’ rights and development of bond markets, protection of lenders’ rights ≠ constant!
Debts and politics

- What about political elements?

- Kohlscheen (2003): analysis of the reschedulings between 1976 and 1999. Parliamentary democracy => reduced probability of default. Furthermore, negative correlation between the number of incidents and the number of veto players

- McGillivray and Smith (2003): systems with large coalition => easier to replace the rulers. In this case sovereign bond prices are not affected by changes of leader
Debts and politics

- Van Rijckeghem & Weder (2004):
  - Yearly data 1970-2002, 73 countries
  - Both democratic and non-democratic regimes default more on their external debt
  - Non-democratic regimes: no influence of political variables
  - Democratic regimes: existence of a parliamentary system, of a longer length of tenure of a higher number of veto players reduce the likelihood of default
Debt buyback?

- Political power => possibility to play with announcements
- During the 1980s suspicion of negative announcements to... lower the debt prices and buy it back cheaply
- Correa in Ecuador in 2007 => threat to default on foreign debt. Suspicion of manipulation => threat to lower prices and buyback thanks to Venezuela’s help
- Default in 2008 and proposition in 2009 to buy back the debts in default with a 65% haircut!
- => 91% of conversions!!!
Credible Commitment

• Credible commitment may also be linked to political decisions
• Question of time consistency:
  • Time consistent => sticking to the decisions even if circumstances change
  • Time inconsistency => actors may anticipate a time inconsistent movement and thus accept a less optimal solution
• Potentially interesting to have a binding mechanism
Credible Commitment

• Bordo & Kydland (1995): adherence to the gold standard $\iff$ a binding mechanism which forces monetary and fiscal discipline

• However: contingent rule $\implies$ possibility to suspend it during extremely stressed periods due to an exogenous shock (a war for example)

• Bordo & Rockoff (1996): gold-standard $\iff$ “good seal of approval”. Adherence to the gold standard $\iff$ credible commitment to follow a prudent macroeconomic policy
Credible Commitment

• Bordo and Rockoff (1996) adherence to gold standard should lower the price of borrowing
  => empirical analysis: confirmation of the impact
• “Credible commitment” => lower rates
• Obstfeld and Taylor (2003) don’t find the same result for the interwar period, commitment not credible
• Flandreau and Zumer (2004) and Alquist and Chabot (2011) raise doubts about the effect
• Since then, vast literature on the topic and modern implications (currency boards)
History and Prediction

• History tends to confirm that institutions play a role in sovereign debt valuation
• To which extent is there path dependence regarding defaults?
• Are countries which defaulted in the past more likely to default again?
• May past defaults harm countries in such a way that recovery is never perfect?
• Reinhart, Rogoff & Savastano (2003): Historical ability of a country to repay its foreign debts is a good metric to predict defaults!
Debt Intolerance

• Reinhart, Rogoff & Savastano (2003) develop the concept of debt intolerance and serial default
• Questions: Why do some countries default with a very low debt burden (15 to 20% of GDP for ex.)? And why do others manage to repay with extremely high levels (120%)?
• Stylized fact: Since 1970, more than 50% of defaults for Debt /GDP lower than 60%
• Series stretching back for two centuries, number of “serial defaults” extremely high and default may become a “way of life”
# Serial defaulters

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of defaults and restructurings (1824-1999)</th>
<th>% years in default</th>
<th>Years since last default</th>
<th>Rating (Inst. Inv, 2002)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argent.</td>
<td>4</td>
<td>25,6</td>
<td>0</td>
<td>15,8</td>
</tr>
<tr>
<td>Brazil</td>
<td>7</td>
<td>25,6</td>
<td>7</td>
<td>39,9</td>
</tr>
<tr>
<td>Chile</td>
<td>3</td>
<td>23,3</td>
<td>17</td>
<td>66,1</td>
</tr>
<tr>
<td>Colom.</td>
<td>7</td>
<td>38,6</td>
<td>57</td>
<td>38,7</td>
</tr>
</tbody>
</table>

Source: Reinhart, Rogoff, Savastano, 2003
## Serial defaulters

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of defaults and restructurings (1824-1999)</th>
<th>% years in default</th>
<th>Years since last default</th>
<th>Rating (Inst. Inv, 2002)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mexico</td>
<td>8</td>
<td>46.9</td>
<td>12</td>
<td>59</td>
</tr>
<tr>
<td>Venezuela</td>
<td>9</td>
<td>38.6</td>
<td>4</td>
<td>30.6</td>
</tr>
<tr>
<td>UK</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>94.1</td>
</tr>
<tr>
<td>USA</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>93.1</td>
</tr>
</tbody>
</table>

Source: Reinhart, Rogoff, Savastano, 2003
Debt intolerance

- Idea: frequent default on external debts
  ⇒ weakening of national financial system
  ⇒ higher probability of default later (because higher losses when the external access is suspended)
- May encourage K outflows and weaken the fiscal system ⇒ hard to collect revenues
- Degree of intolerance? Explanatory variables: default history, degree of indebtedness, macroeconomic stability (long run)
- Countries with past default and high inflation experiences ⇒ lower rating nowadays

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Debt Intolerance

- Hard to diminish one’s intolerance
- Reasons to lend: loans during expansion phases (because of low domestic returns), and sudden stop during recessions => tempting for the country to “over-borrow” => necessity of legal constraints
- However if one takes domestic debt into account intolerance seems to disappear (Reinhart, Rogoff, 2011)
- History may also influence the ability to borrow internationally in one’s currency

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Original Sin

- Eichengreen, Haussmann, Panizza (2003)
  => often impossible to borrow abroad in your own currency, “original sin”
- $5.8 trillion of international securities, out of which $5.6 concentrated in 5 currencies ($,€,£,¥ & CHF) out of which $1.1 issued by countries for which it is not the main currency

Measure of “original sin”:

$$OSIN_i = \max (1 - \frac{\text{Sec in currency } i}{\text{Sec issued by } i}; 0)$$

$$\Leftrightarrow OSIN_i = 1 \text{ for } 100\% \text{ of original sin}$$

(c) Kim Oosterlinck
## Original Sin

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial centers</td>
<td>0.07</td>
<td>0.08</td>
</tr>
<tr>
<td>Euroland</td>
<td>0.53</td>
<td>0.09</td>
</tr>
<tr>
<td>Other developed</td>
<td>0.78</td>
<td>0.72</td>
</tr>
<tr>
<td>Developing</td>
<td>0.96</td>
<td>0.93</td>
</tr>
<tr>
<td>LAC</td>
<td>0.98</td>
<td>1.00</td>
</tr>
<tr>
<td>Eastern Europe</td>
<td>0.91</td>
<td>0.84</td>
</tr>
</tbody>
</table>

Source, Eichengreen, Haussmann, Panizza (2003)
Original Sin

- Persistence of the sin (however counter-examples: Brazil)
- USA, UK, Japan low sin countries (financial centers) idem for Eurozone countries
- Remaining part of the paper: high correlation between original sin and financial rating
- On the other hand Eurozone crisis has shown that Eurozone countries face another form of problem…
Repudiation

- So far, discussion on defaults (with or without economic justification)
- But countries may also repudiate their debts
  - Legal differences
  - Do not occur frequently
  - Usually following a dramatic political change
  - Still present (Ecuador, 2008)

- Russian (Soviet) Repudiation of 1918 = turning point
Repudiation

• Examples before the Russian revolution
  – Portugal (1830’s)
  – US States (1840’s)
  – Mexico following Maximilian’s overthrow
• 1917-1918 turning point
  Russian revolution and Soviet repudiation
• Post-WW2 communist countries (Eastern Europe, China...)

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Repudiation

- Portugal: Succession of Jean VI (†1826)
  - Dom Pedro => Emperor of Brazil
  - Dona Maria 7 years (daughter of Dom Pedro) => Queen of Portugal
  - Dom Miguel, her uncle => Regent, coup, proclaims himself king in 1827
  - Dom Miguel: issues bonds in October 1832 in Paris
  - 1833 Dom Miguel ousted, Dona Maria refuses to honor his debts
Repudiation

• Follow on?
  – Prices? Paris Bourse drop from 700 francs (face value of 1000) to 120 and later a few francs
  – Attempt to borrow again in 1879
  – Final settlement in 1890 thanks to bondholders’ association

• No settlement for a long time but limited size of the issue and event viewed as exceptional and limit of access to the market seems to work

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Debts from US States

- US States = sovereign debts? Yes, impossible to sue the states for debt default! (11th amendment)
- Out of 19 borrowing states in 1841, 8 in default or repudiation between 1841 and 1843!
- Repudiations: linked to bank bankruptcies (bonds issued against bank capital or guaranteed) for Arkansas, Louisiana, Mississippi, Florida (Territory). Exceptions: Michigan, roads, Morris Canal and Banking Cy.
- Costs: difficulties to come back to the markets (1840’ and 1850’)

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Mexican repudiation

• Maximilian I, brother of Franz Joseph I of Austria
• Emperor of Mexico in April 1864 (helped by Napoleon III)
• Emission of bonds on the Paris & London stock exchanges
• 20 June 1867 overthrown by Juarez
• Debt repudiation (emperor = illegitimate)
• But French Government feels responsible of the bonds’ diffusion amongst a large public
• BAILOUT But only for French bondholders (50% of par value)!!! => discrimination

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Russian repudiation

• Russian revolution: repudiation of all debts issued by the “czarist” regime

• In France:
  – 40% to 45% of all Russian debts
  – Amounts estimated between 15 and 18 billions francs or
  – 1.6 million investors!

• Repudiation: impact on bond prices?
4.5% Bond (1909)

Bond price evolution (1917-1919)

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Russian repudiation

• Why do bond prices remain so high?
  – French Bailout
  – Regime change in Russia (Bolsheviks ousted)
  – Reversal regarding the Soviets’ position
  – Foreign military intervention
  – Newly created countries (following the Empire break-up)
  – Microstructure
Comparison London-Paris

Date

Price in % of par valu

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Comparison London-Paris

<table>
<thead>
<tr>
<th></th>
<th>Bond price before the repudiation</th>
<th>Bond price after the repudiation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lond.</td>
<td>Paris</td>
</tr>
<tr>
<td>Mean</td>
<td>72.56</td>
<td>72.45</td>
</tr>
<tr>
<td>Median</td>
<td>74.00</td>
<td>74.15</td>
</tr>
<tr>
<td>Min</td>
<td>40.00</td>
<td>46.00</td>
</tr>
<tr>
<td>Max</td>
<td>83.50</td>
<td>81.50</td>
</tr>
</tbody>
</table>

Source: Bernal, Oosterlinck, Szafarz (2010)
Odious Debts

• Is repudiation sometimes legitimate on moral or ethical grounds?

• Legal literature: dictator’s Odious debts might not be repaid. Various definitions, highlight on:
  – Lack of benefit to the population
  – Absence of consent of the debtor state’s population
  – Both to the knowledge of the creditors
  – Example: Iraqi debts under Saddam Hussein or debts issued under Mobutu (Zaïre)
Odious Debts

• In practice difficult to prove the odiousness as debts are fungible
• 1st mention in history: Spanish-American War (1898)
• War origin: Cuban movement for independence
• Armistice 12/08/1898: Annexation Puerto-Rico, Philippines, Cuba + Caribbean islands
• What about Cuban debts (traded amongst other in France and Belgium)
• Spain: US should take over the debts
Spanish-American War (1898)

- USA: Debts did not benefit the Cuban people
  ⇒ No reason to take them over!
  ⇒ Heated debates with the Spanish representatives
- New notion “repugnant” or odious debts
- At first only one debt presented as odious since proceeds were known to have helped crush the insurrection
- Collet (2013) uses this information to show the existence of a specific premium

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38
Collet (2013)

Figure 2: Cuba 5% and Cuba 6% yield to maturity
Other example the Russian 1906 loan

- Collet and Oosterlinck (2013)
- Loan issued by the tsarist regime following the 1905 Russian revolution
- January 1905: Bloody Sunday, Strikes
- October Manifesto signed by the Tsar (1905): Civil liberties, parliament (Duma). December 1905: insurrection crushed
- April 1906: loan issued just BEFORE the first meeting of the Duma
Organized Protests

- Long (1972) ⇒ describes the organized protest against this loan
- Subscribers and bankers subject to retaliatory threats and intimidation
- Politically speaking opposition from the French Socialist Party, Russian KD party, Russian revolutionaries
- French Socialist ⇒ point in the campaign for the 1906 presidential elections, Algeciras questioned
Yield to call

Source: Collet and Oosterlinck, 2013

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Invasions and “country break-up”

- Cuban case raises the question of state succession
- What happens to the debts of a country taken over by another one?
- What happens if a territory is annexed?
- What happens when several countries are created on the ruins of a former empire?
- Legal issue of state succession!
- What does history provide as example?
Invasions and “country break-up”

- Legal issue already raised at the end of the 16th century and beginning of the 17th century (Cf Grotius, and Hoeflich (1982)
- Before the 19th century, legal consensus: successor states should take over the debt (argumentation: universal succession, continuity of the population, unjust enrichment…)
- But in practice??????
- Texas Annexation by the US
Texas Annexation (1840s’)

- 1844: First project of union with Texas (bonds in default) but US Senate refuses to ratify it
- 1845: Joint resolution for annexation and heated debate regarding the debt takeover
- 1854: UK bondholders sues
- 1855: Payment (7,75 millions) but argumentation: voluntary basis!!!! Up till 1855: legal mess!!
- Burdekin (2004): analyses structural breaks on Texas debts traded in Philadelphia => Main reactions linked to legal changes!!!
Reversals...

- UK acquisition of future colonies refusal to take debts over
- Russian revolution UK and French declaration in March 1918: “Aucun principe mieux établi … une nation est responsable des actes de son gouvernement”
- But also: Anschluss in 1938! Germany refuses to recognize the debts (with eventually separated settlements)
Country Break-up

- Same legal literature. Who should take over the debts of an empire (state) that disappears?
- How to manage the secession? Contemporary Impacts: Ex Yugoslavia? Countries risking to split
- Belgian independence: take over of part of the Dutch debt
- USA: Independence War, payment of £15 million British debts!
- Crucial question: which criterion should the partition be based upon?

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Ottoman Empire

- First loan floated in Europe in 1854 (Cf Crimean War), Multiplication of loans up till 1874
- 1874: default
- 1875: anti-Ottoman uprising in Bosnia and Herzegovina; Serbia and Montenegro
- Austria neutral, Russia enters the war (1877)
- Victory => Treaties of San Stefano and Berlin (1878)
- Portions of Turkish debts, to be determined later on an equitable basis, and taken over by Bulgaria, Serbia and Montenegro
Ottoman Empire

- 1881: Cession of part of the Ottoman empire to Greece (Thessaly)
- Problem: Still no settlement on previous debts! Negotiation Principle: unanimity
- WWI: Ottoman Empire completely breaks up, War debts???
- Lausanne Treaty (1923)
  - Distinction between pre-Balkan war (17 October 1912)
  - and post-Balkan war
- // % revenues and % overall debt (ref. Years 1910-1911 et 1911-1912)

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Ottoman Empire

• Pre Balkan-War debts (1912):

  // % revenues and % overall debt (ref. Years 1910-1911 and 1911-1912) with reference to the Ottoman Empire in 1912!

• Post Balkan-War debts:

  // % revenues et % overall debt (ref. years 1910-1911 and 1911-1912) with reference to the Ottoman Empire in 1912 without the seceded territories taken into account above!
Ottoman Empire

- Proportions for each state out of 129.4 M Turkish Pounds, 44.8 M distributed:
  - Greece: 11.05M
  - Syria and Lebanon: 10.888M
  - Iraq: 6.791M

⇒ PROTESTS! Designation of an arbiter by the League of Nation… etc
⇒ New default… Change in debtor
⇒ Implications regarding the bonds’ pricing?

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What about the Congo?

- A quite unique example: the case of the bonds issued by the Congo Free State.
- Congo protracted process of appropriation by Leopold II
  - International African Association in 1876
  - International Congo Association in 1882
  - Berlin Conference on Africa in 1885
- At first: Congo was a “Free State”
Congo

- February 1888: emission of 150 millions BEF loan of the Congo free state
- Very limited success, need to invest to maintain the price on the stock exchange
- Begin 1904, atrocities happening in the Congo start to get known internationally, international pressure to implement reforms

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Congo

- Leopold II decides to bequeath the Congo to Belgium (1889)
- 1889: Belgium lends to the Congo (10 year interest free 25 million BEF loan)
- In exchange, Belgium received the right to annex the colony 6 months after the term of the loan (1900 thus)
- Refusal to annex! Not much enthusiasm
- 1908: finalization of negotiations for Congo’s take over by Belgium
Congo

- Congo versus 45 millions BEF for the King, take over of the debt (~110 millions BEF = inter-state + bonds) and agreement to develop the King’s pet projects
- Epilogue: 13 December 1909
- What about the markets? Usually colonization linked to lower spreads.
- Belgian case too but maybe a different story…
State successions

- Many historical examples
- The keys to distribute the debt have varied enormously over time
- No consensus as to the best key and often case to case basis
- Yugoslavia the repartition was done on basis of a key provided by the IMF guaranteeing an equitable burden sharing (Stavridi and Kolliopoulos, 2002)
- Sometimes one country takes over all the debt (zero-option)
Some cases

<table>
<thead>
<tr>
<th>Country</th>
<th>Pop.</th>
<th>Fisc</th>
<th>GDP</th>
<th>Zero-Opt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Great Colombia</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Central Am. Fed.</td>
<td>X</td>
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<tr>
<td>Ottoman Emp.</td>
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<td>X</td>
<td></td>
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<tr>
<td>Austro-Hung Emp.</td>
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<td>X</td>
<td></td>
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<tr>
<td>Soviet Union</td>
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<td>X</td>
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<tr>
<td>Czecholslovakia</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Pakistan-Benglad.</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Source: Calyon, 2007, p. 2
State Union

- So far country break-up and annexation, but what happens when country join to create a Union (example creation of the Eurozone)?
- Few historical parallels, one quite close example Italian unification during the 19th century
- Gradual process over the century leading to the union of very heterogeneous entities
  - 1st independence war (1848-1849) : Failure
  - 2nd independence war (1859-1860) : Success except for Rome and Venetia
  - 3rd independence war (1866-1871) : Unification completed
19th century Italy
Italian Unification

• Collet (2012) analyzes the evolution of bond prices from four of the different entities (Lombardy-Venetia, Piedmont-Sardinia, Two Sicilies and the Papal States, not enough info on the three Duchies)
• Following the creation of the Italian state, bonds were integrated into an “Italian” debt but the listing kept a reference to their origin
• The new Italian debt traded at higher yield to maturity than the weighted average of the yields of the constituting entities
• Difference in listing shows a different premium in function of the origin of the debt!