Public Debt through the Ages

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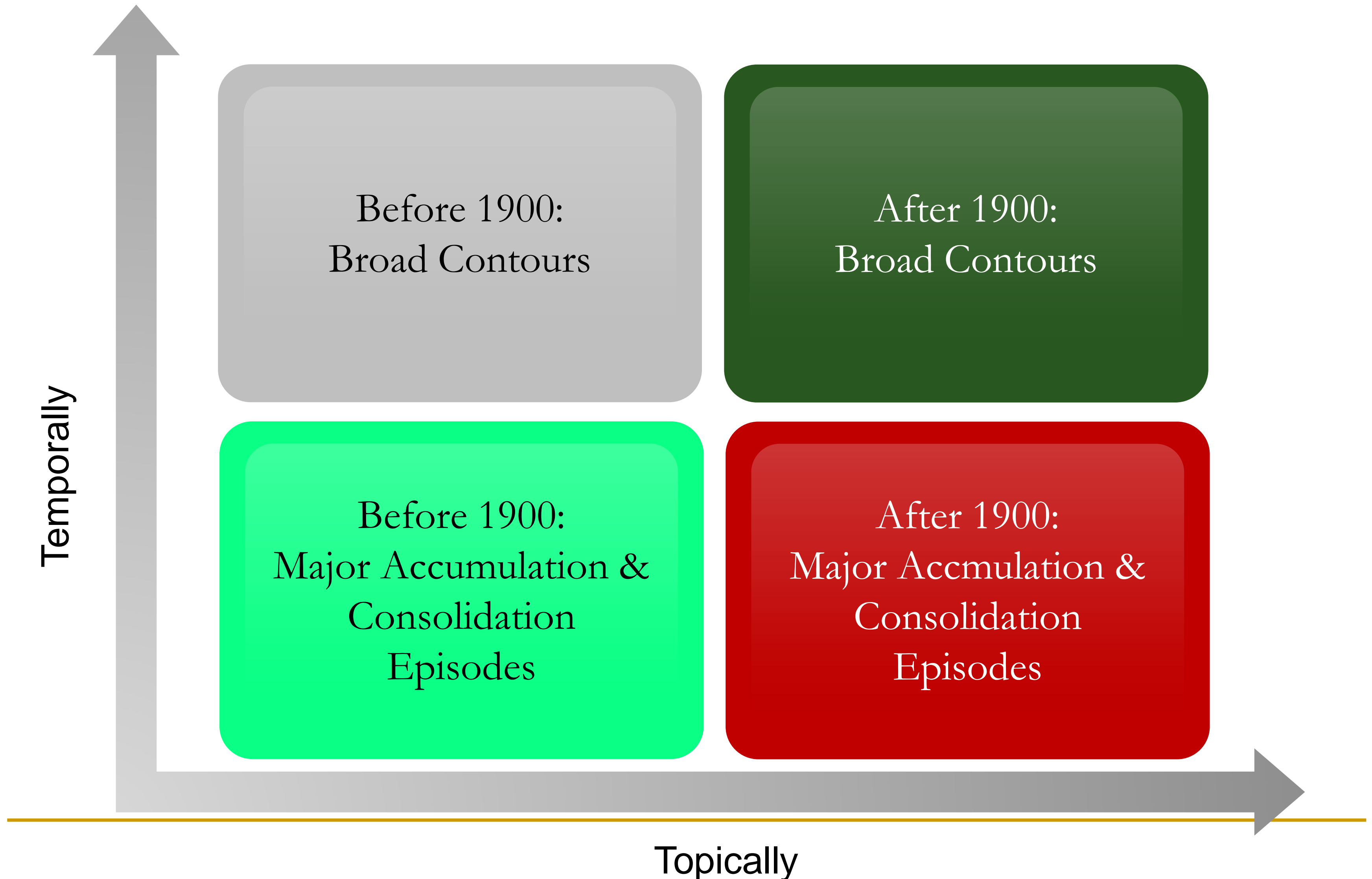
Background and Roadmap

- Management has tasked us with providing a sweeping overview of the history of public debt
- We have organized the chapter as a 2x2 matrix
  - A) the periods before and after 1900, with roughly equal attention to each (the years move faster in the first part; more relevant policy twists and turns to detail in the second)
  - B) the broad contours of public-debt development (in each period) vs. some prominent debt accumulation and consolidation episodes (in each)

2x2 Matrix



Major themes

- Sovereign debt has a long history
  - Before the 19th century it was used mainly to secure borders, prosecute wars, and heighten chances of state survival
  - The 19th century was then a transitional period when, while still borrowing to prosecute wars, governments increasingly issued debt to develop infrastructure and invest in education
  - The 20th century then saw sharp increases in debt burdens as a result of major wars and development initiatives but also as a result of recessions, banking panics and financial crises, and of the public-policy responses to those events
  - The late 20th and 21st centuries saw secular increases in public debt not only for these reasons but, for essentially the first time, in response to popular demands for pensions, health care and other often unfunded social services (which we understand as an unintended consequence of mass democracy and its correlates: political polarization, electoral uncertainty – see Pierre Yared, NBER Working Paper 24979, August 2018

Major themes

- Governments have managed these debts with varying degrees of success:
  - In other words, default, debasement and restructuring also have long histories
  - But not always: Britain, France and the US in the 19th century went to extraordinary lengths to service and repay very heavy debts. It can be done, in other words
  - So how do we understand this choice – this commitment to consolidation?
    - The enfranchisement and growing political influence of creditors
    - Different conceptions of the functions of government, and limited popular pressure for public programs, entitlements and transfers
    - Recognition of the need to maintain/restore creditworthiness in order to mobilize and ensure state survival in the future
    - Good luck (absence of major wars and crises)

Major themes

- Still, these success stories are, in some sense, the exceptions to the rule
  - Countries lacking these happy circumstances defaulted and restructured their external debts, often repeatedly
  - Inflation and financial repression have been used repeatedly to reduce the value of domestic claims on the public sector
    - In other contexts, it has been argued (including by one of our commentators) that countries can graduate from the "bad" to the "good" equilibrium. It is not clear, from the long sweep of history, that this is necessarily the case of commitments to consolidation

So in Part 1 we trace the emergence and evolution of public debt

- 1000-1400 AD first saw standardized public debt contracts and states concluding borrowing agreements with regularity
- States had to be able to secure their borders and ensure their survival (or at least persistence)
- There also had to be a constituency for maintenance of debt service
- Revealingly, it was compact merchant-dominated city-states with representative institutions to monitor the sovereign or head of state that were first able to borrow long-term

Supply of loans was driven by need to finance military campaigns and secure borders

- Armies became more expensive to raise with the decline of feudal obligations for military service
- War was frequent, in Europe where these financial arrangements developed first, prior to the Peace of Westphalia in 1648
- Following this, states became larger and more centralized. Grew faster and developed more fiscal capacity
- A growing number imposed limits on the power of rulers. Glorious Revolution is a widely cited case in point
- Starting in the 16th and 17th centuries, Dutch provinces (fighting the Habsburgs) added an additional twist, borrowing internationally
- And also starting in the 17th century, countries like Sweden and England recognized central banks as fiscal agents of the state, to provide advances and float new debt, enhancing the liquidity of the market and its attractions to other investors

In the 19th century, spending shifted toward the provision of additional public goods

- Consistent with models (Acemoglu 2005) in which strong states spend more on public goods
- By this point public debt was used to finance inter alia water and sewer works, railroads, ports, canals, and public education
- Secondary markets developed further, as underwriters provided liquidity, rating agencies provided information, and bondholders organizations provided coordination (as emphasized by our second discussant in related work)
- And by this point the market in sovereign debt was increasingly global
- Although domestic debt was also very important in Europe in this period

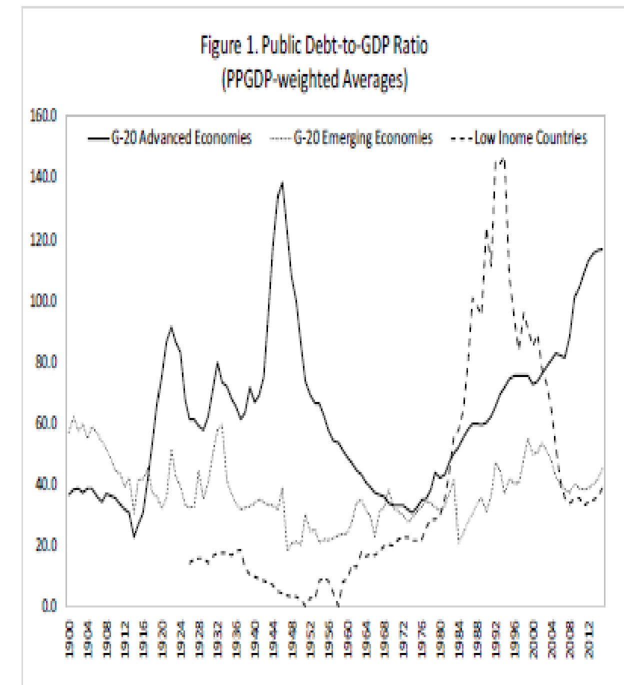
Table 1: Debt flows and stocks, 1880-1914

	Debt flows			Debt stocks		
	Foreign	Foreign	Foreign	Foreign	Foreign	Total
	1880-1889	1890-1899	1900-1913	1913-14	1913-14	1913-14
Europe	36.8	48.5	37.4	47.3	48.9	73.0
North America	7.9	10.6	9.3	2.4	2.3	4.3
Latin America	47.8	12.3	21.3	9.2	9.8	5.1
Africa			0.4	7.8	7.4	2.6
Asia	7.5	28.6	25.9	26.1	24.9	9.6
Oceania			5.7	7.1	6.7	5.3
Total (USD m)	957.6	1284.5	4398.6	12729.1	13453.1	40171.8
# sovereigns	26	26	29	29	45	45

Sources: Bent and Esteves (2016) and United Nations (1946). Values in percentage unless otherwise noted.

In the 20th century, we then see:

- Episodes when wars, recessions and crises produced sharp increases in debt (WWI, WWII in advanced economies)
- But we also see a sharp increase in advanced country debt in the peacetime "Great Accumulation period" since the 1980s
- For emerging economies, we see that debt generally displayed higher volatility at short-term frequencies; in addition, there were peaks in the 1920s-30s; and sustained accumulation during the (emerging economies debt crises of the) 1980s and 1990s
- And, finally, we see a very sharp increase in the debts of low income countries centered on the 1980s and 1990s (eventually prompting the HIPC initiative)



Sources: Abbas et al. 2014a, and latest update of the IMF's Historical Public Debt Database (HPDD). For advanced economies, data up to 2009 are from Abbas et al. 2011, and from 2010 through 2015 are from the latest version of the HPDD. For all other countries data are from the latest version of the HPDD.

Major debt increases have typically been associated with wars and economic crises

- Wartime debt dynamics are straightforward
- So, instead, we pay more detailed attention to two prominent crisis episodes: The Great Depression and Great Recession
  - Debt/GDP ratio rose by 25 pp in 5 years in the first episode, 40 pp in the second
- We use a standard accounting identity for debt dynamics, decomposing it into 3 proximate sources:
  - The primary balance
  - The *i-g* differential
  - And the Stock-Flow Adjustment (SFA)

In advanced economies: deficits/active fiscal policies were responsible for the GR debt rise; growth collapse was the culprit during the GD

- **In 2007-2013,** the story is mainly deficit spending in response to the downturn
  - Arithmetically, 2/3 of the increase comes from this source. Most of the rest is due to the *i-g* differential. Though interest rates are cut dramatically, growth collapses as well
  - And there is a residual contribution from the SFA, reflecting inter alia bank recapitalization costs
- **In 1928-33**, in contrast, there was no deficit spending. If anything, there were spending cuts & tax increases to offset increased interest costs
  - >100% of the increase was due to the collapse of growth (*i-g*). (Interest rates were also cut by less.)
  - No contribution of SFA (bank assistance was largely off balance sheet)

Table 3. Decomposition of Debt Ratio Increases in G-20 Advanced Economies During the Great Depression and Great Recession

(Contribution to debt increase, percent as share of total)

	Primary balance	Interest-growth differential	Stock-flow adjustment
Great Depression (1928-33)	-9	108	1
Great Recession (2007-13)	67	25	8

Source: Abbas et al. (2014a) and authors' calculations.

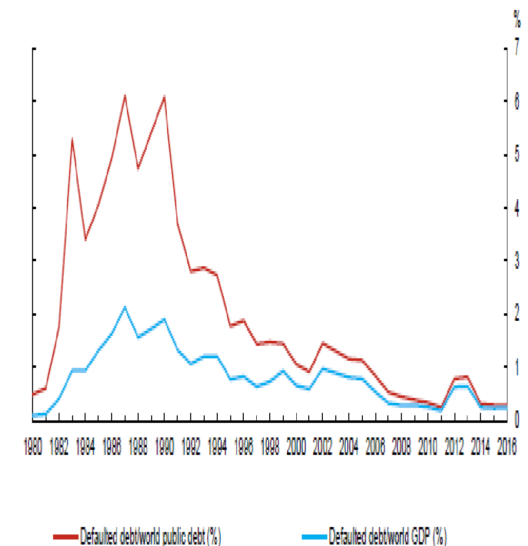
Notes: Countries included are Australia, Canada, France, Germany, Italy, Japan, the UK, and the US. PPPGDP-weighted averages, cumulative over the episode years.

In emerging economies: aggressive external borrowing and a deteriorating global environment played key role in the buildup of debts; defaults/restructuring regularly followed

- **The 1920s-30s**
  - Centered in Latin America
  - US banks gained foothold in Latin America when European banks withdrew during WWI; attracted by the high interest rates on offer in the region
  - Debt ratios climbed due first to extensive borrowing in the boom, and then due to the collapse of GDP in the Great Depression
  - Defaults followed; debt ratios came down as defaulted debt were restructured, GDP recovered, and budgets remained broadly balanced
  - These defaulted were widespread. Strikingly, it took until the 1970s for borrowing capacity to recover

Emerging markets in the 1970s-80s

- **The 1970s-80s**
  - Again centered in Latin America
  - Extensive foreign-currency borrowing from money-center banks with petrodollars to invest
  - Sharply high global interest rates in the 1980s and weaker commodity prices interrupted this process triggering the 1980s crisis (visible at right)
  - Brady plan launched in 1989: restructuring of commercial banks debts, but the region endured seven-plus years of crisis during which high income countries denied the need for principal reduction
  - The growth of FX-denominated/indexed debt stocks then accelerated dramatically, fueled in part by prevalence of pegged exchange rates, which encouraged investors to discount the risks



And meanwhile in the low-income countries…

- **The 1970s-90s**
  - Newly-established governments undertook externally-financed projects to build nations and offset the slowdown of the 1970s
  - Borrowing used to finance current and unproductive expenditures – echoing the 19th century experience of serial defaulters
  - Optimistic expectations about export performance - supported by favorable macroeconomic conditions - would allow debt service obligations to be met
  - But exports disappointed. The second oil price shock in the late 1970s, weaker commodity prices, and higher global interest rates increased debt service burdens, causing arrears/reschedulings
  - Countries borrowed more heavily on commercial terms to respond to the adverse macro environment. But the new borrowing did not translate, once more, into remunerative investment
  - Civil strife was another factor that exacerbated debt burdens
  - Loans from multilaterals supported adjustment programs but contributed to the "heavy" indebtedness of LICs
  - Finally addressed by the HIPC initiative starting in 1996.

Next, we look at major debt consolidation episodes in the advanced countries

- Three pre-WWI country cases: Britain, the US and France
- The two big 20th century advanced-country consolidation episodes: post-WWI and post-WWII

In Britain, as elsewhere, successful consolidation was due mainly to primary surpluses

- Reflecting strong representation of creditors in Parliament after Glorious Revolution.
- Limited representation of masses who would have pushed for more spending on, inter alia, Poor Relief even after the two 19th century Reform Acts
- Development of an ideology of sound finance (which will be familiar to observers of, inter alia, Germany today)
- And good luck (no devastating wars or depressions between 1822 and 1914)

Table 2. Decomposition of Large Pre-1914 Debt Reductions

Country	Period	Debt/ GDP ratio		Decomposition (in %)					Average real GDP growth	Average effective real interest rate	Average inflation rate
		Starting	Ending	Primary Balance	Growth-interest differential (g-*i*)	g	-*i*	Stock-flow adjustment			
UK	1822-1913	194.1	28.3	180.5	-95.6	88.4	-184	15.1	1.9	3.5	-0.1
USA	1867-1913	30.1	3.2	151.1	-46.3	48.2	-95	-4.8	4.2	4.3	-0.9
France	1896-1913	95.6	51.1	100.4	-1.9	96.3	-98	1.6	2.6	2.9	0.5

Sources: for the US, Carter (2006); for France: Flandreau and Zumer (2004); for the UK the Bank of England's database 'A millennium of macroeconomic data: https://www.bankofengland.co.uk/-/media/boe/files/statistics/research-datasets/a-millennium-of-macroeconomic-data-for-the-uk.xlsx

In the US, the post-Civil War debt ratio was lower, but impressively was extinguished all but completely

- Again, due entirely to persistent primary surpluses.
- Negative contribution of growth-interest differential was less than in Britain, due to relatively rapid growth (including effect of immigration)
- Achieved in the presence of universal (white male) enfranchisement
- Arguably, creditor interests were strongly represented prior to Progressive Era reaction against the "Money Trust"
- Tariff provided elastic revenues and was supported by an "odd coalition"
- Southern states & others opposed an expansive role for the federal government

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In France, debt reduction after the 1870-1 War was again driven (in the immediate sense) by primary surpluses

- Financial elites were powerfully represented in Third Republic
- For a variety of reasons (including the agrarian nature of economy and society), public programs (i.e. insurance) were less developed than in Germany or Britain
- Elites saw development of fiscal capacity (ability to borrow) as key for meeting the looming German threat

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The two big 20th century advanced-country consolidations look very different

- Primary surpluses again play a role

- But now there is also an important role for *g-i*
  - That a combination of relatively rapid growth and measures to cap interest rates played a role after WWII is well known.
  - But they also did so in the 1920s.

- SFA worked against consolidation in both periods
  - In 1920s this was due to France and its extensive foreign debt (inflated by franc depreciation)
  - After WWII, the negative SFA was common across countries, reflecting nationalizations, subsidies for loss-making state enterprises, etc.

Table 5. Large Post-WWI and Post-WWII Debt Reductions in Select G-20 Advanced Economies

(Contribution to reduction, percent as share in total)

	Primary balance	Growth-interest differential	Stock-flow adjustment
Post-WWI (1921-29)	64	53	-16
Post-WWII (1945-75)	46	75	-21

Sources: Abbas et al. (2014a) and authors' calculations.

For post WWI, the countries (episodes) included are: Canada (1922-28); France (1921-26), the UK (1923-29), the US (1921-29). For post-WWII, countries (episodes) included are: Australia (1946-63), Canada (1945-57), France (1949-69), the UK (1946-75), and the US (1946-74). PPP GDP-weighted averages, cumulative over the episode years.

Key Findings

- High debts have been brought down successfully in different periods in a variety of different ways:
  - Sometimes rapid sustained economic growth
  - Sometimes inflation and financial repression
  - Sometimes debt default, conversion or restructuring
  - Almost everywhere primary surpluses/fiscal restraint

To conclude

- Sovereign debt has a long history, though its nature and dynamics have evolved
- Governments have managed these debts with varying degrees of success
- The story is not all good or all bad. Some governments have accumulated unsustainable debts and defaulted, in one way or another, repeatedly. Others have shown great persistence in successfully consolidating very large inherited debts
- We provide some suggestions of what distinguishes these cases:
  - The enfranchisement and growing political influence of creditors
  - Different conceptions of government and limited popular pressure for public programs, entitlements and transfers
  - Recognition of the need to maintain/restore creditworthiness in order to mobilize and ensure state survival in the future.
  - Good luck (absence of major wars and crises)
- More suggestions, including from our commentators, are needed (and welcome)

Thank you