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## The History and Politics of Public Debt Accounting

*Éric Monnet and Blaise Truong-Loi*

At first sight,<sup>1</sup> the debates on public debt that emerged from the 2007–2008 global financial crisis and the 2010–2012 European debt crisis focused mainly on drawing economic policy conclusions from the level of debt relative to Gross Domestic Product (GDP), without raising many questions about the definition and accounting of public debt.<sup>2</sup> Economic and moral arguments, embedded in different political repertoires,<sup>3</sup> were called upon to discuss what is “too much debt”. This debate around numbers mostly took the quantity of debt as given. In several cases, however, accounting issues have been in the forefront. A striking example—although unnoticed outside

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circles of specialists—was the publication in 2011 of the first official global methodological guide on public sector debt statistics by nine international organizations.<sup>4</sup> Statistical issues also attracted some attention in the public and academic debates. Greek creative public accounting (helped by the advisers of the US bank Goldman Sachs) in the decade preceding the debt crisis was a reminder that some legal financial arrangements can quite easily be used to circumvent such rigid and comprehensive accounting rules as those of Eurostat, the European Commission Directorate-General in charge of collecting and publishing the official statistics of the European Union (EU) members.<sup>5</sup> For some observers, the Greek scandal simply reflected the inability of the current Eurostat definition of public debt to incorporate derivative liabilities, and, thus, to account for changes in financial instruments that affect the nature and politics of public debt.<sup>6</sup> The ability of standard definitions of public debt to account for major public policy challenges was further called into question by the fact that the implicit guarantees provided by governments to domestic banks were not accounted as public debt.<sup>7</sup> In the same vein, accounting issues struck back about the focus of official statistics on gross debt only. Accountants do not subtract the financial assets of the state from the liabilities. The link between public debt and public wealth is indirect, at best.<sup>8</sup> Although public assets are usually not considered in comparisons of public debt across countries, they play a key role in the assessment of the size of public debt and, of course, during debt settlements. For instance, the Greek government was forced by creditors to sell state assets to repay the national debt.

The gross/net distinction and the incorporation of derivative liabilities in the scope of public debt are not the only issues that spur conflicts between public debt statistics and financial theory. Reacting to recent debates on public debt, some economists emphasized that standard statistics are based on definitions at odds with economic reasoning. Most prominently, national accountants calculate the stock of nominal debt as it is issued (i.e. at the repayment value of the principal) rather than as the sum of government's outstanding promises to pay coupons.<sup>9</sup> In the words of Alessandro Missale: "Indeed, theory and policy speak different languages: while the former focuses on the market value of the debt and rates of return, policy makers are concerned with national accounting figures; the book value of the debt and the interest payments."<sup>10</sup>

During the European sovereign debt crisis, some hardly noticed details in public debt statistics also made it clear that the definition of public debt relies on a definition of the sovereign state and thus implicitly defines the boundaries of the relevant sovereign. Eurostat states that "Government

loans (IGL) to other EU governments have been deducted from euro area and EU debt.”<sup>11</sup> Put differently, loans to Greece granted by other EU governments do not increase the official total amount of EU’s public debt.<sup>12</sup> In this case, they even pushed it down since the Greek government used them to reimburse its previous existing debt. As in the Maastricht definition, public debt is consolidated between the different elements of a sovereign state.<sup>13</sup> These accounting options reveal that, at least in the statistics, the European Union is not merely a sum of member states.

This set of recent examples shows that the definition of public debt reflects both geographical and economic boundaries of the state, different financial reasoning or financial practices, as well as different political uses of statistics. Neither attempts by international financial institutions to standardize concepts and definitions of public debt—which are rather recent in historical perspective—nor recent noted publications of long-term historical series of public debt should lead one to believe that alternative quantitative perspectives and definitions of public debt are illegitimate or misguided, and that a gold standard has been reached regarding the calculation of public debt figures.<sup>14</sup> On the contrary, understanding how public debt statistics were constructed and used and why such methods have changed over time is key to fully appreciating the politics of public debt. Uses of international statistics on public debt—including historical series reconstructed by academic and international policy institutions—are a typical example of a globalized discourse of technical expertise which shapes policy options and the view of macroeconomic realities. Statistics of public debt, standardized and compared, participate in the construction of a global objectivity, by numerous actors and institutions. They determine how we see the world.<sup>15</sup> A historical perspective sheds light on how such discourses have changed over time, while also highlighting persistent issues.<sup>16</sup> It is also important to acknowledge and understand why the standardization of international statistics on public debt occurred much later than for other major macroeconomic statistics, such as prices, production, national income and trade. The “delayed” international standardization of public debt statistics reflects as much accounting difficulties as shifting political interests.

This chapter does not intend to provide new computations of historical series of public debt—although in some cases we will highlight how series differ.<sup>17</sup> Instead, our goal is to review different methods of public debt accounting and narrate their historical evolution. Our contention is that in many cases, available long-term public debt series published by

contemporaneous national or international institutions (and compiled recently by economists) are too limited to understand the political economy of public debt. A posteriori reconstructions and compilations of macroeconomic long-run series often miss the politics that lie behind the numbers. What is the interplay between the evolution of accounting practices and concepts and their functioning within the state and among contemporary economists? How have international comparisons of public debt statistics participated in the construction of a global discourse on debt sustainability and good economic policies? What was measured and why? What preconceptions lie behind statistical constructs? With such questions in mind, this chapter proposes a short and inevitably partial journey into the history of the accounting practices of public debt. It also tries to offer a general perspective on how figures and politics entangle all along the four parts of this collective book.

## HISTORICAL SERIES OF PUBLIC DEBT AND METHODOLOGICAL ISSUES

### *Pre-1914 External Debt and Financial Accounting*

Despite well-known difficulties, there have been several recent attempts by economists or economic historians to build long-term public debt series for as many countries as possible. A first wave of comparative studies emerged in the 1980s after the Latin American debt crises. Prominent examples are articles by Barry Eichengreen, Richard Portes, Peter Lindert and Peter Morton.<sup>18</sup> Following these studies, and as part of the widespread interest in the first age of globalization (1880–1914) that developed in the 1990s, other authors attempted to compute public (and mostly external) debt figures for the pre-1914 period.<sup>19</sup> The most complete work was the one of Marc Flandreau and Frédéric Zumer, which has since served as a basis for most subsequent work.<sup>20</sup> Fifteen years later, the recent financial and debt crises gave birth to a more ambitious literature culminating in the historical databases produced by Carmen Reinhart and Kenneth Rogoff as well as by economists of the International Monetary Fund (IMF) which cover dozens of countries since the late nineteenth century.<sup>21</sup>

In a nutshell, three main kinds of sources are used in these comparative works. For the period before 1914, private sources prevail. Flandreau and

Zumer mostly relied on statistics produced by the Credit Lyonnais—the biggest French bank of the time, which hosted an international research department.<sup>22</sup> They compared them to other contemporary sources such as *The Economist* and, most importantly, the *Statesman's Year Book* which published and commented on public debt statistics on an annual basis, among other things. The database constructed by Flandreau and Zumer is the main source of Reinhart and Rogoff and the International Monetary Fund's datasets for the pre-1914 period. Lindert and Morton also used private sources: the annual reports of the British Corporation of Foreign Bondholders (CFB) before 1930 and Moody's annual reports in the 1930s. For the interwar period, the standard source is the League of Nations which undertook a far-ranging collection of international statistics, including public debt. Since World War II, the United Nations (UN) and the IMF serve as references. United Nations yearbooks are especially used for the period until the 1970s. It was only after its involvement in the Latin American public debt crises in the 1980s that the IMF implemented a consistent policy of publishing and comparing continuous series of public debt, although some figures on public debt appeared in the *International Financial Statistics* volume as early as 1947. In some few cases (the United Kingdom and the United States), comparative studies have relied on national sources instead of UN or IMF statistics.

All the studies quoted above have a common characteristic: rather than using national official sources, they are based on earlier attempts by private or public institutions to standardize and compile public debt statistics. The persistent reluctance to rely on published national sources reflects scholars' widely held belief that, for a long time, statistics of public debt produced by governments were not comparable. Besides deliberate misreporting and falsifications, the accounting choices and definitions of state entities varied too much across countries to allow straightforward comparisons. Flandreau and Zumer stressed in the following way how these difficulties affect the work of economic historians: "Data on [...] public debts may seem, superficially, relatively easy to gather, which should permit researchers to place much of the data-collection burden upon research assistants. This strategy would be very inappropriate. The task requires that senior researchers get personally involved."<sup>23</sup>

Difficulties in international comparability of public debt have been stressed by all comparative attempts to standardize figures, in the past and today alike. This issue went much beyond debates of accountants and economists. Public debt statistics were often constructed to legitimate

international financial control.<sup>24</sup> Given the huge amount of work involved in collecting official statistics and making them comparable, historians have no choice but to rely on such earlier attempts. What is important is to understand the choices that were made—or not made—by past comparative economists. For example, the *Crédit Lyonnais*—the source of Flandreau and Zumer’s work—adopted a very financial perspective and focused on comparing debt service to government revenues (excluding debt or net income from public companies). What may look like a bias or limitations in the production of statistics is the price to be paid for an exceptionally rigorous work of standardization of international statistics. By contrast, other private sources did not produce continuous series with a unique definition. In such a case, as noted by Lindert and Morton about the Corporation of Foreign Bondholders: “The mass of data available from the sources mentioned above was assembled for the benefit of contemporary investors, not subsequent scholars. Definitions and categories shift over time and make it necessary to apply some criteria in deciding what to include and what to leave out.”<sup>25</sup> An illustration of these issues is the figures published by the *Statesman’s Yearbook* on Chinese public finances in the late nineteenth century. The Qing dynasty’s foreign debt arose almost entirely out of the 1894–1895 defeat against Japan, which resulted in a £33 million indemnity.<sup>26</sup> To meet the cost of reimbursement, the Chinese government borrowed £48 million on European markets in 1895, 1896 and 1898. The *Statesman’s Yearbook* then faced immense difficulties deciding where public debt was: in the indemnity? in the loans? in both? Decisions varied from year to year of publication. On the one hand, adding the indemnity to the loans was redundant. It would count the same amount twice. This probably explains why the authors of the 1897 issue of the *Statesman’s Yearbook* only considered the borrowing from Europe as external debt. On the other hand, the aggregated sum raised by the Chinese government for these three years clearly exceeded the amount of the indemnity. Furthermore, whereas the indemnity was to be paid back in seven years, the 1895, 1896 and 1898 European loans had a thirty-six-year maturity. Part of it must have been spent for another purpose than paying back Japan. Consequently, it made sense to include both the loans and the indemnity, as the authors of the 1896 *Statesman’s Yearbook* did.<sup>27</sup> Neither of these two perspectives is wrong if properly justified but switching from one to the other is highly problematic for those looking for time-consistent data on the Chinese debt.

*The League of Nations and the Interwar Duplication  
of Public Debt*

In the interwar period, the League of Nations published figures produced by governments without standardizing them *ex post*. However, the League sent a questionnaire to each country to present final statistics in harmonized categories. A general rule was applied: only central government debt had to be considered; debts of local governments were excluded. Despite this attempt to harmonize statistics *ex ante*, the retrospective volume of the statistics of the League of Nations, published by the United Nations in 1948, still shows very different accounting practices across countries, which often changed over time.<sup>28</sup> This was prominently the case for war reparations or sinking funds liabilities.<sup>29</sup> As acknowledged in a long introductory note, the continuity in the published series is most of the time an artifact and hides changing definitions over time.

The League of Nations' efforts to standardize economic statistics across countries led to major successes. Breakthroughs were mostly made in the field of statistics on production and trade.<sup>30</sup> By contrast, little progress was made on public debt statistics, despite the publication of several "Memorand[a] on public finance". Memoranda on public finance focused on describing governments' budgets and the League of Nations did not go beyond identifying the different technical procedures followed by national governments to compute published public debt statistics. It was not until 1938 that decisions were made to draw up a new questionnaire on public debt that would record all public liabilities, and especially claims and liabilities between several public institutions. The method was new in that it viewed public debt in the context of the total balance sheet of a country. It was especially motivated by the fact that, in the 1930s, financial linkages between state institutions (within a given country) had strongly increased.<sup>31</sup> The role of international financial markets in the financing of government had decreased and domestic financial arrangements became predominant, as it clearly appears in Part III of this volume. As a result, the balance between marketable and non-marketable debt, as well as between internal and external debt shifted greatly. This was not only the case in the USSR,<sup>32</sup> Fascist Italy and Nazi Germany.<sup>33</sup> In France, for example, a sinking fund (Caisse Autonome d'Amortissement) and a public credit institution (Crédit National), set up in the 1920s to finance reconstruction and settle war debt, created financial linkages between different bodies of the state. These connections were not completely new, as they

already existed before 1914, particularly between states and railway companies. Yet, they burgeoned during World War I and the interwar period, changing the nature of public debt and the interpretation of statistics. In his comparative work on English, German, French and US public debt from 1914 to 1944, the French economist Henry Laufenburger called such a change the “dedoubling (*duplication*) of public credit”. He described it in the following way: “Not only does the state multiply the number of bodies and institutes which issue bonds and commit to repay debt, but the massive debt of the state increasingly relies directly on commercial and saving banks which both collect deposits.”<sup>34</sup> For the same reasons, League of Nations economists realized that a full assessment of public debt required looking beyond the gross liabilities of the central government.<sup>35</sup> The (failed) attempt of the League of Nations to compute public debt statistics based on estimations of public sector total liabilities rather than on figures of marketable debt issuance or budget expenditures was a sign of the times. It bears witness to the questions contemporary economists were asking about the financial boundaries of the state. Besides the writings of Laufenburger quoted above, it is worth mentioning the book of the British economist Henry Champion. Published in 1939, it was a seminal attempt to estimate public wealth and, thus, to account for the total assets and liabilities of the state, rather than looking merely at external and marketable debt.<sup>36</sup>

### *From Bretton Woods Neglect of Public Debt to Recent International Benchmarking*

After World War II, the accounting of public debt was not the main priority for the statistical offices of international organizations. In the “Articles of Agreement of the International Monetary Fund” signed at the Bretton Woods Conference, members of the future IMF committed to provide statistical information to the Fund.<sup>37</sup> A long list of relevant macroeconomic statistics featured in the agreement (trade in goods and services, international investment position, foreign exchange reserves, prices, national income, etc.) but the list did not include statistics on public debt. The Articles of Agreement of the International Bank for Reconstruction and Development (IBRD, the future World Bank) do not include a commitment to furnish statistical information in exchange for a loan. In its first years of operations, the IMF mainly focused on standardizing balance of payments statistics (the first edition of the *Balance of Payments Manual*

was published in 1948) and foreign reserves data. The IMF then started to produce numerous studies on the “adequate level” of foreign reserves.<sup>38</sup> Such a benchmarking procedure was not attempted on public debt comparisons. Although defaults on public debt had been a major economic event of the 1930s, the political lessons learnt from the interwar period by postwar reformists focused on demand management, financial and payments imbalances rather than on the danger of public debt. The new world emerging from the ashes of the Great Depression and World War II did not want to let the states depend on financial markets, nor the “burden” of public debt to impede the development of welfare states and new growth strategies.<sup>39</sup> The Bretton Woods—or, let’s say, Keynesian—moment, which created a major push for the development of macroeconomic statistics, hence left aside the accounting of public debt. This was true both at the international and at the national level. In the United Kingdom, the 1944 White Paper on Employment Policy, which laid out the principles of postwar economic policy and led to an unprecedented program of construction of macroeconomic series and figures,<sup>40</sup> urged for the creation of statistics on unemployment, national income, production, prices, money, credit, payments, foreign capital movements and balance of payments, but no distinct series on public debt.

In the late 1940s and 1950s, when international organizations dealt with government debts, they did not try to implement a global and standardized statistical apparatus. Documents produced by the World Bank about the countries that were granted a loan during that period are models. They merely documented the history of default on external public debt and repayments for each country.<sup>41</sup> In the 1960s, after several “developing” countries experienced great difficulties in servicing their external debt and had to reschedule their loan repayments, extensive research was undertaken in academia and international institutions, but its focus was again on debt service and on external debt only. Approaches and issues were similar during the Latin American debt crisis of the 1980s.<sup>42</sup> The issue of global standards of public debt accounting hence remained unexplored for long. Therefore, while the first international guide to the System of National Accounts (SNA) was published in 1953 by the UN (with major revisions in 1968, 1993 and 2008), an equivalent guide for public debt accounting was only published in 2011. The first global guide on public sector debt statistics was prepared and published under the joint responsibility of nine organizations: the IMF, the Organization for Economic Cooperation and Development (OECD), Eurostat, the UN,

the Bank for International Settlements (BIS), the European Central Bank, the Commonwealth, the World Bank and the Club de Paris. Note that, like the SNA, this is a guide that provides recommendations and no compulsory rules. Contrary to the SNA, whose primary targeted readership is national institutions, this guide is mainly intended to help statisticians who are compiling national sources. The only precedent to this guide had a much narrower focus and had been published in 1988, motivated by the Latin American debt crisis. Originally called *External Debt: Definition, Statistical Coverage and Methodology*, it was revised in 2003 under the name *External Debt Statistics: Guide for Compilers and Users*, so as to be consistent with the 1993 SNA and to cope with recent developments in international capital markets. The only previous attempt to standardize statistics of public debt across countries—in a compulsory way—came from the Maastricht Treaty and was applied to the members of the European Union. It gave birth to a peculiar definition of public debt, named “debt in the sense of Maastricht”.<sup>43</sup> In that definition, the “public sphere” encompasses four elements: the central state, central government bodies,<sup>44</sup> local administrations and social security funds. “Debt in the sense of Maastricht” is a gross, consolidated and nominal debt (it is evaluated at the repayment value of the principal).

The Maastricht debt definition, along with the 2008 and 2011 *Guide of Public sector debt statistics*, illustrates a quite recent wave of attempts to find a common definition of public debt at an international level. It has converged toward a standard definition of debt that can be summed up in three main elements. First, it is a gross debt: government assets are not subtracted from the total amount of debt. Second, it is the “general government” debt: it includes the debt of the central government and the main bodies of the state (regional states, municipalities, etc.) but not the total debts of state-owned corporations. Third, it excludes contingent liabilities, guarantees and financial derivatives.

Such a recent convergence is remarkable in historical perspective and arguably seen as a great achievement for the production of international statistics. However, even proponents of the new standard stress that this common definition is somewhat arbitrary and could have significant limitations, depending on the purpose of the analysis. A 2012 study written by staff economists of the IMF, whose primary goal was nonetheless to apply the standard nomenclature of the *Public-Sector Debt Statistics Guide* to improve data comparability, clearly emphasizes the issues at stake:

While key macroeconomic indicators such as Gross Domestic Product (GDP) or Consumer Price Index (CPI) are based on internationally accepted methodologies, indicators related to the debt of the public sector often do not follow international standards and can have several different definitions. [...] The absence of the standard nomenclature can lead to major misunderstandings in the fiscal policy debate. [...] The authors suggest that gross debt of the general government should be globally adopted as the headline indicator supplemented by other measures of government debt for risk-based assessments of the fiscal position. Broader measures, including net debt and detailed information on contingent liabilities and derivatives, could be considered.<sup>45</sup>

### WHY DO STATISTICS DIFFER? CONSEQUENCES FOR ECONOMIC HISTORY

The IMF 2012 study quoted above is only one example among many recent papers that have stressed how the estimations of public indebtedness may vary to a large extent and why a new standard definition of public debt should not prevent economists from studying and using alternative definitions. This scholarship, that complements the numerous official attempts to come up with a common nomenclature, furnishes insights that have received surprisingly little attention in the economic history literature that has devoted considerable effort to collecting long-term data on public debt.<sup>46</sup> This is not to argue that comparisons of public debt across countries should be avoided, but to raise questions on accounting methods and to emphasize the need to develop alternative indicators to assess the historical financial and political issues around public debt. As OECD economists recently warned: “There is no single ‘best’ indicator for analyzing general government debt.”<sup>47</sup> According to them, it is crucial to realize that accounting differences as well as variations in the perimeter of public debt exist because each country has a different state organization. We believe that such insights and conclusions are even more valid for the economic history literature.

What is especially striking for historians is how these recent warnings and discussions are reminiscent of the writings of previous economists, decades or a century ago. Despite efforts in constructing a common accounting framework and despite the evolution of debt instruments over time, the same conceptual issues stand out. In his far-ranging comparative book *Les dettes publiques européennes* (*The Public Debts of Europe*), written

in 1887, the French economist and journalist Alfred Neymarck did not provide a full notice nor an introduction to accounting issues. Yet, he emphasized that, for many countries, the definitions of public debt and accounting practices were problematic.<sup>48</sup> The case of the railways is a good example. While most of the time, the debt of state-owned railway companies was included in the public debt, Neymarck claimed that it should not be, since the activity of the railway companies was not a burden on the budget of the state and was not important to understand the tax pressure on citizens.<sup>49</sup> However, he acknowledged that this issue was sometimes more complicated, for example, when the Danish government issued public bonds to buy stocks of railway companies in 1880.<sup>50</sup> It was even more complicated to identify the guarantees of the bonds issued by public companies and to assess whether they would finally be a burden on taxpayers. In the case of Serbia, Neymarck provided a thorough discussion of the issue: “The funds borrowed by the railway companies are guaranteed by their revenues from the railways [...] but, in second line, the guarantees are the revenues of the customs, then of general taxes, and then of any resource of the Serbian government.”<sup>51</sup> Public debt accounting already faced issues of state boundaries and contingent liabilities.

Accounting difficulties created by the variety and nature of financial instruments are not new either. Neymarck rightly noted that computing the level of French public debt by adding the nominal capital of perpetual bonds (*rente*), which is never repaid, and the capital of debt repayable by annuities was not meaningful from an economic point of view.<sup>52</sup> Moreover, in some cases—and not always in a consistent way—Neymarck referred to the concept of net debt. For example, he stated that the current debt of the French state should be assessed in the light of the future revenue and assets of the railway companies which had been purchased by the French government in 1881.<sup>53</sup> Four years earlier, in his *Traité de la science des finances*, Paul Leroy-Beaulieu had already voiced this general warning: when analyzing a state’s debt burden, “one must subtract from state liabilities all the assets which generate public revenues. If not, it is absolutely impossible to assess properly how indebted this state is.”<sup>54</sup> In the 1900s, when the economists of the *Crédit Lyonnais* tried to depict Chinese public finances in a big table, they did include a “public asset revenues” column and an “asset value” column to assess in two final columns a “net debt service” and a “net outstanding debt”. Yet, as they lacked data, the first two columns remained empty whereas the last two ones were just a copy of the columns (gross) “debt service” and (gross) “outstanding

debt.”<sup>55</sup> The result they obtained was thus explicitly unsatisfactory. Empty columns were a clear message: gross figures were only used for want of anything better. It is then striking that nowadays, the preference for “gross” numbers is hardly ever discussed and taken as given whereas it often resulted in the past from a lack of data on the value of public assets.

What public debt should be compared to (population? trade? government’s assets? national revenue?) was also a key—but unsolved—issue in pre-1914 writings on public debt statistics. Around 1900, most economists agreed that, for a financial risk assessment, it was meaningful to compare debt service to government revenue. There was no consensus, however, on the denominator of a public debt ratio, because estimates of national income were not widespread and usually very rough at that time.<sup>56</sup> It was probably not needed for investors, but economists whose goal was to assess the actual and potential burden of debt on the nation (because they viewed debt as a source of future taxes) had to choose a way to compare nominal levels of public debt. For example, Neymarck ranked countries by the growth rates of their debt from 1870 to 1885. Alternatively, following previous publications by the Société de Statistique, he also mentioned levels of public debt per inhabitant.<sup>57</sup> As for Leroy-Beaulieu, he focused on the debt interests/government overall budget ratio and mentioned, without any justification, two important thresholds: 35 percent and 45 percent (respectively the vigilance threshold and the alarming threshold).<sup>58</sup>

In the interwar period, to our knowledge, the League of Nations did not discuss the issue of the denominator in its publication on public debt statistics. The only other economic variable which was published in the columns next to the public debt statistics was a price index. Given the high inflation rates during and after World War I, it was essential to compare the nominal growth rate of public debt to the evolution of prices. A notable exception was the 1938–1939 World Survey of the League of Nations which, for the first time, featured a brief comparison of public debt to national income for a limited number of countries. The issue was prepared by James Meade, the Keynesian economist who would later become one of the fathers of national accounts. However, only modest conclusions were reached from this comparison besides stating that the United Kingdom and France had more debt relative to their national income than Sweden because of the “long avoidance of war” in the latter country. And the usual caveats applied: “It is not possible to use this table for strict international comparisons, because both the figures of national income

and those of public debt are not properly comparable.” This publication also contained few words on the ratio of public debt to population: “Whereas in the nineteenth century, the burden of state debt per head of the population was reduced by a rapid growth of the population, the opposite development is to be expected in a declining population unless the burden of debts is rapidly reduced by, for instance, repayment or a rise in prices.”<sup>59</sup> While the League of Nations left aside the discussion on which variables should be compared to public debt, it confronted directly and openly the issue of accounting and statistical definition of public debt and revenues. Yet, they did not find a common method to deal with these issues, as we have discussed previously. In the *Memorand[a] on Public Finance*, cautionary notes reminded the reader that comparability of public budgets and debts was almost an impossible task and that an “extreme prudence” was necessary to compare the figures of one country to those of another one. The 1948 retrospective volume on public debt contained a longer methodological introduction that explained the main sources of variations in definitions and accounting practices across countries: “The main object of this note is to indicate, in broad lines, the differences in *national concepts of public debts* in various countries. These differences are chiefly the result of diversity in type of state organization, in government functions, and in budgetary and accounting methods.”<sup>60</sup> This document hence sums up the different elements to bear in mind when producing or reading statistics on public debts:

- The *type of state organization*.
- The *extent of economic activities* in which the various governments are engaged.
- The *budgetary methods and accounting practices*.<sup>61</sup>
- Public debt can be shown on a “*net*” or “*gross*” basis, and the meaning of these terms is not the same everywhere.<sup>62</sup>
- *Methods of conversion of foreign debt* (parity rates or market rates of exchange at the time of the issue of debt, etc.).

Such a list is strikingly similar to the one in a recent BIS paper which introduces a new international public debt database and notes that “the main discrepancies in the reporting of government debt figures relate to the following dimensions”:<sup>63</sup>

- *Sector coverage* (e.g. public enterprises, subnational authorities such as states or regions, social security funds).
- *Instrument coverage*.
- *Consolidation*.
- *Netting*.
- *Valuation method*.

If public debt accounting tends to be more and more unified and coherent, very different measures still exist. They do not imply the same perspective and do not raise the same political questions on public debts. The next section therefore tries to make these underlying issues more explicit, and discusses how different perspectives prevailed at different times.

### WHAT LIES BEHIND PUBLIC DEBT STATISTICS? SOME “IDEAL-TYPES”

The issue of public debt accounting is not only a challenge for statisticians and economists. Excluding components from the scope of public debt, shifting from one sustainability ratio to another, or reasoning with gross figures rather than with net, raise first and foremost very political questions. We aim to understand them through a typology of perspectives on public debt accounting and hereby distinguish three ideal-types that correspond to different ways of defining public debt and performing comparisons: a *financial* view which emphasizes external and marketable debt and focuses mostly on debt services and the history of repayment to evaluate the risk of public debt; a *circuistist* view which emphasizes the interlinkages between the several bodies of the state, as well as their role as financial intermediaries, and thinks mostly in terms of domestic assets and liabilities to evaluate the role of the state (the “public”) in the economy; a *benchmarking* perspective whose primary aim is to provide international harmonized definitions and public debt ratios—as arbitrary as they may be—for explicit political guidance and salience. Each of them tends to focus on a specific question of what is at stake in the political economy of public debts. Finally, as we will discuss at the end of the section, each of these perspectives had its historical moment, broadly corresponding to the last three parts of this collective book.

### *The Financial View*

The first perspective is a *financial view* (or *market-based view*) of public debt. This view is mainly that of investors. The perimeter of public debt is assumed to be quite narrow in this perspective because investors are interested in marketable debt (i.e. debt issued on financial markets, that can be traded easily) and in the debtor with whom they contract. Public debt is viewed as a potential substitute to private debt, without any difference in nature. Hence, debts of state-owned companies or local governments are viewed as separate entities from the central government and then usually excluded from general statistics on public debt. By contrast, foreign/external debt deserves a special attention in such a perspective. Financiers mainly assess debt sustainability by comparing debt service to government revenues.

Such a view is epitomized by the various financial analysts or institutions that were constructing and publishing their own figures of public debt in the late nineteenth century (the “First Age of Globalization”, studied in the second part of this volume) and has remained prevalent over time. The big table on Chinese public finances mentioned above is a good illustration of that perspective. It was made by the Credit Lyonnais employees to compare the evolution of public revenues and debt service. For the years ranging from 1890 to 1902, the economists of the Service des Études financières (the “Financial Studies Department”) reported the amounts associated to the state’s different sources of revenues (maritime customs, local customs, taxes and others) and debt service. In doing so, they tried to evaluate the solvency of China, whose many bonds had been issued in Paris by a consortium of Western banks including Le Crédit Lyonnais.<sup>64</sup>

In this perspective, the government is expected to publish as many details as possible on marketable debt (volume and date of issue, amortization, debt service, etc.) so that risk on its debt can be calculated easily.<sup>65</sup> Otherwise, reluctant states may face sanctions imposed on international capital markets by those Adam Tooze refers to as “bond vigilantes” (Chap. 18).<sup>66</sup>

### *The Circuitist View*

The second perspective is that of a *circuit economy* and it was developed in the interwar and postwar period (see the third part of this volume). Following this view, public debt is equivalent to the total liabilities of the

state, and thus needs to be assessed with regard to the assets. The size of public debt reveals the importance of the state as a financial intermediary in the economy, that is, to what extent domestic savings are intermediated (directly or indirectly) by the state to finance investment. Consequently, outstanding debt matters much more than debt service and the external debt is likely to be neglected, except when debt is consolidated on an international or regional scale. On the contrary, debts of all state entities are included, although their frontiers may be blurred. Non-marketable debt is included and deserves a special analysis since it reveals the state capacity to escape the constraints of financial markets and oblige domestic institutions to own debt, for example, as regulatory capital or forced savings. The circuitist view is hence adopted when paying attention to the structure of public debt ownership,<sup>67</sup> when the role of the state in the financing of the economy is high or when a significant share of public debt is not marketable. In this perspective, different estimates may be used by economists or governments to assess the size of public debt, depending on the relevant perimeter of the state.<sup>68</sup> Alternative measures of state indebtedness are also used, such as “credit to the government”, which is the counterpart of the money supply. Hence, in a circuitist perspective, public debt is not measured to evaluate its risk but to estimate the state’s role in money creation, financial intermediation, or capital accumulation.

Such a perspective is naturally consistent with mercantilist views of public debt (“The debts of a state are debts from the right hand to the left hand,” as famously stated by Jean-François Melon and criticized by Adam Smith)<sup>69</sup> and other circuitist perspectives that were prevalent in most countries from the 1930s to the 1970s and viewed public intervention as a necessary feature of wealth accumulation. It supports justifications for forced savings, backed by Keynesian macroeconomic arguments on aggregate demand and market failures, especially in war or planned economies.<sup>70</sup> However, the statistics produced in this perspective can also be used by critics of state interventions. This was, for example, the case when public debt was viewed as an inflationary burden in the 1970s,<sup>71</sup> or by critics of state-owned firms, or of social security systems, that considered the state’s share in total national wealth should be minimal, whatever the interest paid on public debt.<sup>72</sup>

A good illustration of the consequences of the circuitist perspectives for the politics and accounting of public debt is seen in the financial relationship between the government and the central bank in postwar France.<sup>73</sup> From the mid-1950s to 1973, half of the financing of the *Banque de*

*France*—the French central bank—to the government was hidden. It did not appear as such in the balance sheet of the central bank and was not counted as “official” public debt. Yet, the Treasury and the central bank considered this unofficial debt as a normal circuit of government financing and kept track of the relevant figures. Such hidden financing relied on complex mechanisms and interconnections between several state-owned financial institutions: the central bank was lending to the Caisse des Dépôts—a developmental bank—which deposits these funds with the Treasury. These financial schemes reflect the general trend toward cross liabilities between several bodies of the state, in a context where policies aimed at decreasing the war debts of European states and increasing government intervention in the financial system. They reveal the nature of a state whose boundaries seem undefined but they should not be interpreted as a mere sign of free financing to the state, as, by other means, the central bank was able to cut credit to the government and the private economy in case of inflationary pressures. A 1973 law that abolished such a practice was officially justified as a way to provide more transparency on the financing of the government. The 1973 reform should also be understood in the context of the “rationalization of public policies” that started in the late 1960s in France:<sup>74</sup> reforms took place following the objectives of simplification and rationalization of state procedures, looking for more accountability and transparency (typical features of the financial perspective). Initial attempts to liberalize financial markets and decrease the role of state occurred at the same time. Changes in statistics reflected changes in the nature of the state and in the accountability of monetary and fiscal policy.

### *The Benchmarking View*

The third perspective is the *benchmarking view*. Here, the main objective is to standardize and compare statistics of public debt across countries in order to derive policy implications. Consequently, the economic logic behind the definition of public debt is less clear, even if numbers enter into the formulation of policy rules. International institutions—from the League of Nations to the IMF—have obviously played a major role in diffusing the benchmarking view, as they supervised many quantitative and comparative studies and implemented public debt accounting standards. Yet, advocates of the benchmarking perspective are also more prone to acknowledge that statistics are somewhat arbitrary: if choices need to be made for international comparability, it is obvious that alternative

definitions could be used. Harmonization aims first and foremost to produce long-term and international series to identify regular patterns and minimize biases due to different accounting systems. This is quite different from the financial perspective which relies on the idea that the information could be complete if governments were totally transparent on their debt management—an argument that became the dominant narrative in the 1980s. In the benchmarking perspective, there is no belief in that possibility: aggregated data demand sacrifices in terms of accuracy. Yet, the political impact of such statistics is key and justifies their production.

Besides financial considerations, the objective of Neymarck's *Les dettes publiques européennes* was, for example, to discuss the danger of rising public (war) debts in continental Europe while American and English debts were decreasing. In this perspective, comparing public indebtedness led to a very clear policy message regarding the economic and social burden of wars. Neymarck acknowledged key differences in the accounting of public debt across countries—which prevent robust financial comparisons—but however undertook an international analysis to highlight the consequences of relative patterns of public debt for public policy. In 1871, compiling figures on the *National Debts of the World* had also led Robert Dudley-Baxter, from the Royal Society of Statistics, to make clear distinctions between the countries of the globe. According to him, marketable debt was a characteristic of “civilized” countries, but over-indebtedness was a common feature among countries eager to look more developed than they were. Following this reasoning, he identified three groups based on racial characteristics. First, the “Germanic peoples” (England, the United States, Belgium, Holland, Germany, etc.) who take care to repay their loans since they are “industrious and thrifty”.<sup>75</sup> Second, the “Latin peoples” (France, Italy, Spain, Portugal and Latin American countries), “sober and careful” but who suffer from “expensive governments”.<sup>76</sup> The third group is composed of “peoples without many racial affinities but who share geographical situation and political conditions”: military, absolute and irresponsible governments (Russia, Turkey, Greece, Egypt, Morocco, etc.). These countries are to take out loans and be unable to repay them,<sup>77</sup> which eventually legitimates the creation of international financial controls by Western powers, studied in the second part of this book.<sup>78</sup> For Dudley-Baxter, figures of public debt were thus tools for a racial and comparative reasoning which endowed peoples with moral virtues according to their creditworthiness. In his *Traité de la science des finances*, Leroy-Beaulieu nevertheless leveled criticism at this approach

and provided alternative figures on public indebtedness, stressing that most indebted countries (both in absolute and relative terms) belonged to Dudley-Baxter's first category, the allegedly "Germanic countries."<sup>79</sup> Nationalist considerations are thus never far when comparing public indebtedness. During World War I, it was a frequently monitored indicator to assess belligerents' strength or weakness.<sup>80</sup>

The recent work by the economists Reinhart and Rogoff has renewed the long tradition of a comparative perspective on public debt, building on the more recent expansion of benchmarking practices by international organizations. Benchmarking practices and reasonings are also widespread today in the political role attributed by governments to rating agencies.<sup>81</sup> Contrary to the nationalist narratives of the late nineteenth century, today's benchmarking practices by international organizations tend to neglect domestic peculiarities and to make all states commensurable and similar to private debtors.<sup>82</sup>

### *Historical Interactions of the Three Perspectives*

Our three perspectives are ideal-types and certainly coexist, but each of them had its historical moment of domination. The financial view developed in the first age of globalization, when Europe was the "world's banker"<sup>83</sup> (Part II of this volume). The circuitist view accompanied the rise of macroeconomic accounting and heavy state intervention in the financial sector, when non-marketable debt represented a large share of public debt, and when the transparency of financial arrangements was not a key signal of good behavior (Part III). The benchmarking view has gained prominence since the 1980s, when marketable debt regained importance and international organizations started to standardize public debt accounting to prevent sovereign defaults (part IV). These three perspectives may not capture properly the period covered by the first part of this book (1770s–1860s), when statistics on public finances mainly focused on spending or revenues and financial globalization was in its early stage. We suggest, however, that the eighteenth century saw the emergence of the financial perspective (rise of marketable public debts in London, Paris and Amsterdam) while a form of circuitist perspective was still dominant, in line with mercantilist principles and the politics of empire.<sup>84</sup>

Like any ideal-type, our three perspectives are often confounded in a single work or publication. For example, the books by Reinhart and Rogoff or the current IMF debt sustainability framework<sup>85</sup> interconnect

the financial and benchmarking views, mixing financial reasoning on debt sustainability and long-term series from which they infer strong policy conclusions on the good behavior of public finance. Moreover, in the late nineteenth century as today, benchmarking practices have played a key role in assessing financial risk, especially when information on public debt and domestic policies was limited or imperfect. The statistics published by the League of Nations in the interwar years were the first attempt to provide an official standardization of public debt categories but they also assisted the League in its role of a rating agency, aimed at influencing financial decisions.<sup>86</sup> Immediately after World War II, it is also that combination of financial and benchmarking perspectives that prevailed when international organizations paid attention to statistics of public debts. The main question of a 1957 study published by the World Bank comparing the level of public external debt across countries was whether post-1945 accumulation of external debt had handicapped economic growth and whether the debt service of external debt was sustainable. The approach followed by the World Bank was very much that of a financial lender. A 1949 report on “Turkey’s external public debt history” is exemplary. It contains tabs offering information on interest and amortization payments on the external debt. However, unlike the *Crédit Lyonnais*’ employees, World Bank economists did not try to compare these sums to state revenues. Instead, they related them to projected dollar and exchange receipts and imports (in percentage).<sup>87</sup>

The current international SNA, which provides a definition of government liabilities, articulates the circuitist view with the benchmarking perspective. National accounting may, at first sight, look like a mere example of the circuitist perspective but the need to standardize accounts internationally has led accounting practices to bypass national specificities about the definition of the public sector. As we explained in previous sections, the development of the SNA—and the benchmarking practices associated with it—has pushed to replace the term of “public debt” by “general government debt”, and thus to avoid defining the “public” sector which is at the core of the circuitist logic. Such an evolution is in fact not specific to public debt. It reflects a more general process in the history of national accounting, from a strong macroeconomic circuitist and national view to a paradigm of international comparability.<sup>88</sup>

Finally, note that the term “debt burden”—that appeared regularly in the writings of economists and financiers in the nineteenth century and has continued to be widely used throughout the twentieth century—is not

especially associated with one perspective. It is found in various types of argument and is itself subject to various interpretations. In the financial perspective, the burden is what will increase the probability of default. In the benchmarking perspective, the debt burden is what prevents the state or the nation from acting. It is then mostly associated with a tax burden weighing on the economy.<sup>89</sup>

More importantly, governments themselves may play with the three perspectives described above because they have to respond to different demands (from domestic and international creditors or observers as well as from their taxpayers and citizens) and because public debt statistics are published on different supports and articulated with various types of official publications: central government budget, wealth accounts, money and financial statistics, retrospective national accounts and so on. This ambiguity and the multifaceted definition of public debt partly explain why economists and historians have emphasized the many difficulties in comparing public debt statistics across time and countries.

\* \* \*

Long-term series of public debt show, in most countries, a striking decrease in the public debt-to-GDP ratio in the three or four decades after World War II. It may seem paradoxical that this decrease corresponds to the times when the state intervention in the economy was much higher than before or since. Conversely, the subsequent increase in public debt ratios at the turn of the 1970–1980s paralleled a decrease in state intervention. Wolfgang Streeck has described such a phenomenon as the transition from a fiscal state to a debtor state.<sup>90</sup> From such figures, one may conclude that the debt-to-GDP ratio is a very bad indicator of the state's role in the economy and of its liability, since the numbers are limited to general (or even central) government debt and do not include key liabilities of the welfare state such as pensions, or guarantees offered to failing banks. Not only are such ratios poorly informative about the relative size and indebtedness of the private and public sectors, but they are also silent on the risk associated with the debt, since they neglect the nature of the debt instruments and the identity of debt holders.<sup>91</sup> Can we compare a world where the public debt is mainly held (sometimes through various mechanisms of forced savings) by domestic banks and other financial institutions which are mainly state-owned to a world where the debt is massively issued and traded on international markets? Is it meaningful to compare the debts of

nineteenth-century economies, caused by war expenditures and the expansion of railway companies, to the debts of modern welfare states excluding contingent liabilities? Opening the black box of public debt statistics and understanding their historical use by contemporaries (both of official and alternative estimates) is an essential step toward a better understanding of the politics of debt. This chapter has shown that there is no single indicator for estimating and analyzing central government, general government and public debts, and that, over the course of history, economists and accountants have used different definitions depending on their interest and perspective. Defining public liabilities goes beyond standardizing accounting practices; it implies choices and results from constraints, both strongly shaped by the historical context.

## NOTES

1. This chapter has greatly benefited from the comments and lively discussions with the members of the collective *A World of Public Debts: A Political History*. We especially thank Nicolas Barreyre, Nicolas Delalande, Noam Maggor and Stephen Sawyer for detailed feedback on a previous draft. We also thank Thomas Piketty and Angelo Riva for important suggestions and help with references. We owe a special debt to Adam Tooze for pushing us to write this paper and discussing these ideas on several occasions.
2. See Mark Blyth, *Austerity: The History of a Dangerous Idea* (New York: Oxford University Press, 2013), for a critical review of the debates. Philip R. Lane “The European Sovereign Debt Crisis,” *The Journal of Economic Perspectives* 26, no. 3 (2012): 49–67 provides a quantitative account of the debt crisis. On the US debate on debt limit, see D. Andrew Austin, *Debt Limit: History and Recent Increases* (Washington DC: Congressional Research Service Report, 2015).
3. In this volume, see Chap. 20 by Nicolas Barreyre and Nicolas Delalande.
4. International Monetary Fund, *Public Sector Debt Statistics: Guide for Compilers and Users*, 2nd edition (Washington DC: IMF publications, 2013).
5. Beat Balzli, “How Goldman Sachs Helped Greece to Mask its True Debt,” *Spiegel Online*, February 08, 2010 <http://www.spiegel.de/international/europe/greek-debt-crisis-how-goldman-sachs-helped-greece-to-mask-its-true-debt-a-676634.html>
6. Agnes Tardos, “The Story Told by Debt Indicators and the Hidden Truth,” *IFC Bulletins chapters* 36 (2013): 351–365.

7. Such “contingent” liabilities are off balance sheet in the standard definition of public debt (which, in the European Union, is called “debt in the sense of Maastricht”). Angelo Baglioni and Umberto Cherubini, “Bank Bailout Guarantees and Public Debt,” *VoxEu*, December 1, 2010, <http://voxeu.org/article/bank-bailout-guarantees-and-public-debt>; “Marking-to-Market Government Guarantees to Financial Systems: Theory and Evidence for Europe,” *Journal of International Money and Finance* 32 (2013): 990–1007.
8. Thomas Piketty, *Capital in the Twenty-First Century* (Cambridge, Mass.: Harvard University Press, 2014), Chap. 4.
9. George J. Hall and Thomas J. Sargent, “A History of U.S. Debt Limits,” NBER Working Paper, no. w21799 (December 2015). According to Missale, this accounting mistake prevents government from using public debt as an insurance against macroeconomic shocks to the government budget. Alessandro Missale, “Sovereign Debt Management and Fiscal Vulnerabilities,” BIS Papers, chapter 65 (2012): 157–176. A more critical perspective is given by Yuri Biondi: “This driving reference to and preference for a market-based view on public finances” reflects a new “business-style accounting” which “is one of the pillars of ‘new public management’”. For Biondi, assuming an equivalence between public and private accounting is not desirable: it neglects specificities of public finances, and is not sustainable in the long run. Yuri Biondi, “Public Debt Accounting and Management in UK: Refunding or Refinancing? Or the Strange Case of Doctor Jekyll and Mr. Hyde in the Aftermath of the Global Financial Crisis,” *Accounting Forum* 40, no. 2 (2016): 89–105; Id., “Accounting Representations of Public Debt and Deficits in European Central Government Accounts: An Exploration of Anomalies and Contradictions,” *Accounting Forum* 40, no. 3 (2016): 205–219.
10. Missale, “Sovereign Debt Management”, 159.
11. Eurostat, “Third quarter of 2016 compared with second quarter of 2016, government debt fell to 90.1 percent of GDP in euro area”, *Newsrelease. Euroindicators*, 15/2017 (January 23, 2017): 3. <http://ec.europa.eu/eurostat/documents/2995521/7826125/2-23012017-AP-EN.pdf>
12. In 2016, intergovernmental loans were equal to 2.2 percent of the Euro Area GDP.
13. Consolidation makes it possible to produce a unique set of accounts to represent the financial situation of different entities which can be considered relevantly as a whole. Here, the issue at stake is: can member-states of the European Union be considered as parts of a sovereign entity?
14. Yuri Biondi even advocates abandoning the balance-sheet accounting approach and suggests implementing new standards to get better account-

- ing representations of public finances. See Biondi, “Accounting Representations of Public Debt”.
15. Some recent studies have highlighted the role of economic statistics in shaping globalization. Daniel Speich studied how the production of global figures on economic inequality has nurtured for seventy years a “conceptual world economic order of nations” which is today widespread and taken for granted. Daniel Speich, “The Use of Global Abstractions: National Income Accounting in the Period of Imperial Decline,” *Journal of Global History* 6, no. 1 (2011): 7–28. Quinn Slobodian showed that, as early as the late nineteenth century, some German and Austrian economists mobilized statistics “to make visible what they called the ‘world economic organism’”: Quinn Slobodian, “How to See the World Economy: Statistics, Maps, and Schumpeter’s Camera in the First Age of Globalization,” *Journal of Global History* 10, no. 2 (2015): 307–332.
  16. As pointed out by Thomas Piketty about GDP statistics, “One conclusion stands out in this brief history of national accounting: national accounts are a social construct in perpetual evolution. They always reflect the preoccupations of the era when they were conceived. We should be careful not to make a fetish of the published figures.” Thomas Piketty, *Capital*: 58.
  17. For a recent presentation and discussion of widely used public debt statistics, see Ali S. Abbas, Alex Pienkowski and Kenneth Rogoff, eds., *Sovereign Debt: A Guide for Economists and Practitioners* (Oxford: Oxford University Press, 2019). As for the evolution of debt-to-GDP ratios over two centuries in major economies, there is no clear evidence that alternative sources would lead to very different long-term patterns from the one that has been emphasized in recent publications. The amount of public debt arguably increases when a country is at war.
  18. Barry Eichengreen and Richard Portes, “Debt and Default in the 1930s: Causes and Consequences,” *European Economic Review* 30 (June 1986): 599–640. See also: Rudiger Dornbusch and Mario Draghi, *Public Debt Management: Theory and History* (Cambridge: Cambridge University Press, 1990); Peter Lindert and Peter Morton, “How Sovereign Debt Has Worked,” in *Developing Country Debt and Economic Performance, Vol. 1: The International Financial System*, ed. Jeffrey D. Sachs (Chicago: Chicago University Press, 1989): 39–106.
  19. Michael D. Bordo and Lars Jonung, “Monetary Regimes, Inflation, and Monetary Reform: An Essay in Honor of Axel Leijonhufvud,” in *Inflation, Institutions, and Information: Essays in Honor of Axel Leijonhufvud*, eds. Daniel Vaz and Kumaraswamy Velupillai (London: Palgrave Macmillan, 1996): 157–244; Maurice Obstfeld and Alan Taylor, “Sovereign Risk, Credibility and the Gold Standard: 1870–1913 versus 1925–3,” *The Economic Journal* 113, no. 487 (April 2003): 241–275.

20. Marc Flandreau and Frédéric Zumer, *The Making of Global Finance. 1880–1913* (Paris: OCDE Development Centre Studies, 2004). The compilation of statistics by Mitchell also contained statistics on public debt but most series were discontinuous, and no effort was made to make them comparable. Mitchell relied on official government sources: Brian R. Mitchell, *International Historical Statistics: Europe 1750–1988* (New York: Stockton Press, 1983); *International Historical Statistics: The Americas, 1750–1988* (London: Macmillan, 1983).
21. Carmen M. Reinhart and Kenneth S. Rogoff, *This Time is Different: Eight Centuries of Financial Folly*, (Princeton: Princeton University Press, 2009); S. M. Ali Abbas, Nazim Belhocine, Asmaa El-Ganainy and Mark Horton, “Historical Patterns and Dynamics of Public Debt—Evidence from a New Database,” *IMF Economic Review* 59, no. 4 (November 2011): 717–742; S. M. Ali Abbas, Laura Blattner, Mark De Broeck, et al. “Sovereign Debt Composition in Advanced Economies: A Historical Perspective,” IMF Working Paper, WP/14/62 (September 2014).
22. Marc Flandreau, “Le service des études financières sous Henri Germain (1871–1905): une macro-économie d’acteurs,” in *Le Crédit Lyonnais (1863–1986). Études historiques*, eds. Bernard Desjardins et al. (Geneva: Droz, 2003): 271–301.
23. Flandreau and Zumer, *The Making of Global Finance*, 98.
24. In this volume, see Chap. 6 by Ali Coşkun Tunçer and Chap. 7 by Malak Labib.
25. Neymarck collected figures directly from governments and presented them without statistical processing, but he stressed several times in his study the imperfection of official statistics and different accounting practices across countries (see below). Lindert and Morton, “How Sovereign Debt Has Worked,” 80.
26. See in this volume Chap. 9 by Dong Yan.
27. In 1896, the authors of the *Statesman’s Yearbook* asserted that the Chinese debt had increased from £13 million to £53 million within the previous two years. To get this increase, they must have added the Japanese indemnity, the 1895 loan and the 1896 loan. Then, they subtracted the first two instalments of the indemnity and the part of the pre-war debt that was paid back. In 1897, the authors mentioned a £15 million decrease. Since, within a year, the Chinese government only paid back a new instalment of the indemnity and the first instalments of the 1895 and 1896 loans, there can be only one explanation for this decrease: the remains of the 1895 indemnity had been removed from the outstanding amount.
28. United Nations, *Public Debt 1914–1946* (Lake Success: New York, 1948).
29. The debate on how to account for war reparations and subsequent debt accords is not settled and still gives rise to historical debates. See, for

- example, the new series of Italian foreign debt, that significantly differs from earlier ones: Marianna Astore and Michele Fratianni, “‘We can’t Pay’: How Italy Dealt with War Debts after World War I,” *Financial History Review* 26 no.2 (2019): 197–222.
30. See especially the 1928 Geneva international conference relating to economic statistics.
  31. See in this volume Chap. 12 on interwar Germany, by Stefanie Middendorf.
  32. In this volume, see Chap. 13 by Kristy Ironside and Étienne Forestier-Peyrat. After the repudiation of the Tsarist debts, the Soviet state resorted to lottery loans which aimed to attract a significant part of domestic savings.
  33. In this volume, Chap. 12 by Stefanie Middendorf precisely shows that the traditional narrative, which focuses on the caesura of 1933, fails to explain how the structuration of the German public debt and its governance evolved in the Interwar period. Such an evolution was much more influenced by changes in the practice of power than by changes in the ideology of political regimes. On the computation of Italian domestic debt in the 1930s and the accounting issues related to state institutions financing the reconstruction (especially the Consorzio Sovvenzioni su Valori Industriali), see Vera Zamagni, “Italy: How to Lose the War and Win the Peace,” in *The Economics of World War II: Six Great Powers In International Comparison*, ed. Mark Harrison (Cambridge: Cambridge University Press 2000): 177–223.
  34. Henry Laufenburger, *Crédit public et finances de guerre, 1914–1944* (Paris: Librairie de Médecis, 1944): 9.
  35. Denys P. Myers and Perry A. Wicks, “International Comparability of Public Debts,” *The American Economic Review* 28, no. 4 (December 1938): 711–715.
  36. Harry Campion, *Public and Private Property in Great Britain* (Oxford: Oxford University Press, 1939). Thomas Piketty considers this book as the very first attempt to calculate public assets. See Piketty, *Capital in the Twenty-First Century*, 591.
  37. Keith J. Horsefield, *The International Monetary Fund, 1945–1965, Volume III: Documents* (Washington: International Monetary Fund, 1969).
  38. Eric Monnet and Damien Puy, “Do Old Habits Die Hard? Central Banks and the Bretton Woods Gold Puzzle,” IMF Working Paper, WP/19/161 (July 2019).
  39. Eric Helleiner, *States and the Reemergence of Global Finance: From Bretton Woods to the 1990s* (Ithaca: Cornell University Press, 1996).
  40. Harry Campion, “Recent Developments in Economic Statistics,” *Journal of the Royal Statistical Society (Series A)* 121, no. 1 (1958): 2. See also Alan

- Booth, “The ‘Keynesian Revolution’ in Economic Policy-Making,” *The Economic History Review* 36, no. 1 (February 1983): 103–123.
41. See for example: World Bank, *Honduras’ External Debt History* (Washington, DC: World Bank, 1948) <http://documents.worldbank.org/curated/en/308151468274216187/Honduras-external-debt-history> and World Bank, *Finland’s External Public Debt History* (Washington: World Bank, 1948) <http://documents.worldbank.org/curated/en/847541468256737689/Finlands-external-public-debt-history>
  42. Pieter Lieftinck, “External Debt and Debt-Bearing Capacity of Developing Countries,” *Princeton Essays in International Finance* 51 (1966). See also: Charles R. Frank and William R. Cline, “Measurement of Debt Servicing Capacity: An Application of Discriminant Analysis,” *Journal of International Economics* 1, no. 3 (August 1971): 327–344.
  43. The Government Finance Statistics Manual first edition was published by the IMF in 1986.
  44. A central government body is an institution whose mission, given by the central State, applies to a national scale. In national accounts, central government bodies are grouped together in several functions: general services, defence, public order and security, economic affairs, environmental protection, etc.
  45. Robert Dippelsman, Claudia Dziobek and Carlos A. Gutiérrez-Mangas, “What Lies Beneath: The Statistical Definition of Public Sector Debt,” *IMF Staff Discussion Notes*, SDN/12/09 (July 2012).
  46. A recent exception is Andrea Papadia, *Sovereign Defaults during the Great Depression: The Role of Fiscal Fragility*, LSE Economic History Working Papers, no. 255 (2017). The author attempts to account for the debt of local governments and to reconstruct such series. Besides statistics of the League of Nations, he makes use of the international figures published yearly in the *Statistisches Jahrbuch für das Deutsche Reich*. He does not question, however, why accounting methods differed across countries.
  47. Debra Bloch and Falilou Fall, “Government Debt Indicators: Understanding the Data,” *Journal of International Commerce, Economics and Policy* 7, no. 1 (2016).
  48. Ten years before, Paul Leroy-Beaulieu’s *Traité de la science des finances* (Paris: Guillaumin et Cie, 1878) had quickly become the reference work on public finances in France. Sixteen of its forty-two chapters were devoted to “public credit”. Among them one focused on “the different methods to evaluate the weight of a public debt”.
  49. Alfred Neymarck, *Les Dettes publiques européennes* (Paris: Guillaumin et Cie, 1887): 5.
  50. Neymarck, *Dettes publiques*, 37.

51. Neymarck, *Dettes publiques*, 64. For more details on Neymarck, see in this volume Chap. 4 by David Todd and Alexia Yates.
52. Neymarck, *Dettes publiques*, 76.
53. Neymarck, *Dettes publiques*, 85.
54. Leroy-Beaulieu, *Traité*, 7th edition (Paris: Guillaumin et Cie, 1906): 656.
55. Crédit Lyonnais Archives, DEEF 73449.
56. See Adam Tooze, *Statistics and the German State, 1900–1945, The Making of Modern Economic Knowledge* (Cambridge: Cambridge University Press, 2001): 8.
57. Neymarck, *Dettes publiques*, 86–87.
58. Leroy-Beaulieu, *Traité*, 662.
59. *World Economic Survey, 1938/1939*, 8th year, League of Nations: 71.
60. United Nations, *Public Debt*, 7.
61. For example, amounts due to trust funds, deposits administered by the government, or even special advances of central banks may be excluded. War debts from 1914–1918 also received a different treatment across countries. Only some nations included them (Australia, Italy, France, Portugal and the United Kingdom) and the date of their exclusion varied. “As the amounts involved are often considerable, their inclusion or exclusion results in great differences in the foreign debt figure,” cf. United Nations, *Public Debt*, 9.
62. In South Africa, “net debt” represented the “gross debt” after deduction of sinking funds, whereas, in Argentina, all bonds held by the government were deducted.
63. Christian Dembiermont, Michela Scatigna, Robert Szemere and Bruno Tissot, “A New Database on General Government Debt,” *BIS Quarterly Review* (September 2015).
64. For more details on how foreign loans impacted Chinese economic and statistical knowledge, see in this volume Chap. 9 by Dong Yan.
65. Accordingly, the 1899 issue of the *Statesman’s Yearbook* complained that “no general statement of the revenue and expenditures of China was made public.” See *Statesman’s Yearbook. Statistical and Historical Annual of the States of the World for the Year 1899* (London: Palgrave Macmillan, 1899): 460.
66. See in this volume Chap. 18 by Adam Tooze.
67. For an illustration focusing on the American case, see Sandy B. Hager, “Appendix: Accounting for the Public Debt,” in Id., *Public Debt, Inequality, and Power: The Making of a Modern Debt State* (Oakland, CA: University of California Press, 2016): 105–122.
68. See Tooze, *Statistics and the German State*, 135, on how, in interwar Germany, annual surveys on government indebtedness took place in the

- framework of the general circuitist perspective (especially on the circuit of payments) developed by macroeconomic statisticians.
69. Adam Smith, *An Inquiry Into the Nature and Causes of the Wealth of Nations* (London: J.M. Dent & Sons, 1910): 409
  70. John Maynard Keynes, *How to Pay for the War: A Radical Plan for the Chancellor of the Exchequer* (London: Harcourt, Brace & Co, 1940).
  71. See, about the United Kingdom: Nicoletta Batini and Edward Nelson, “The UK’s Rocky Road to Stability,” Federal Reserve Bank of St. Louis Working Paper, 2005-020A (2005).
  72. On the evolution of these conceptions, see Chap. 15 of this volume by Anush Kapadia and Benjamin Lemoine.
  73. This example is taken from Éric Monnet, *Controlling Credit: Monetary Policy and the Planned Economy in France, 1945–1973* (Cambridge: Cambridge University Press, 2018), Chap.5.
  74. Philippe Bezès, *Réinventer l’Etat. Les réformes de l’administration française (1962–2008)* (Paris, Presses universitaires de France, 2009).
  75. Robert Dudley-Baxter, *National Debts*, 2nd edition (London: Robert John Bush, 1871): 7–47.
  76. Dudley-Baxter, *National Debts*, 48–63.
  77. Dudley-Baxter, *National Debts*, 64–72.
  78. In this volume, see Chap. 6 by Ali Coşkun Tunçer and Chap. 7 by Malak Labib.
  79. Leroy-Beaulieu, *Traité*, 642–650
  80. See Chap. 11 of this volume, by Nicolas Delalande.
  81. See Chap. 18 of this volume, by Adam Tooze.
  82. See Chap. 17 of this volume, by Jerome Sgard.
  83. Herbert Feis, *Europe: The World’s Banker, 1870–1914*, 2nd edition (New York: A. M. Kelley, 1964).
  84. See Chap. 1 of this volume, by Regina Grafe.
  85. International Monetary Fund, “Joint World Bank-IMF Debt Sustainability Framework for Low-Income Countries,” *IMF Factsheet* (March 19, 2019): <https://www.imf.org/external/np/exr/facts/jdsf.htm>
  86. Michel Fior, *Institution globale et marchés financiers. La Société des Nations face à la reconstruction de l’Europe, 1918–1931* (Bern: Peter Lang, 2008): 282.
  87. International Bank for Reconstruction and Development, *Turkey’s External Public Debt History*, Economic department report no. E39/49 (1949): <http://documents.worldbank.org/curated/en/259561468337852342/Turkeys-external-public-debt-history>
  88. Adam Tooze, “Imagining National Economies: National and International Economic Statistics, 1900–1950,” in *Imagining Nations*, ed. Geoffrey Cubitt (Manchester: Manchester University Press, 1998): 212–229;

Matthias Schmelzer, *The Hegemony of Growth: The OECD and the Making of the Economic Growth Paradigm* (Cambridge: Cambridge University Press, 2016); Fior, *Institution globale et marchés financiers*.

89. See the numerous uses of the term “debt burden,” associated with “tax burden” in Dornbusch and Draghi, *Public Debt Management*. Finally, the influential paper by C. Reinhart and R. Rogoff is a prominent example where the “debt burden” is associated with lower economic growth. Carmen M. Reinhart and Kenneth S. Rogoff, “Growth in a Time of Debt,” *American Economic Review*, 100, no. 2 (May 2010): 573–78. In this paper, it is not clear however whether high debt is a burden on economic growth because of a tax burden or because of its effect on the probability of crisis.
90. Wolfgang Streeck, *Buying Time: The Delayed Crisis of Democratic Capitalism* (London: Verso Books, 2014).
91. This chapter does not deal much with the identity of debtholders. International statistical standardization has failed to provide a unified framework to tackle this key issue, even though some attempts have been made to understand how sovereign debt composition has influenced the probability of default or choices regarding taxation since the 1950s. See Abbas, Blattner, De Broeck, et al., “Sovereign Debt Composition.”