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SOURCES AND ACCURACY OF BASIC DATA

DATA FOR SPECIE (gold and silver), currency, and deposits—both their totals and their distributions among the Treasury, the banks, and the public—come typically from different sources. The reasons are both statistical and institutional.

1. Sources of Data

Specie

Official yearly compilations of the U.S. monetary gold stock and the stock of silver begin only with June 30, 1873, the first date for which the Director of the Mint made estimates. That year was chosen as the start of the series because it was believed the stocks at the time could be accurately estimated. Gold was at a high premium. Nearly all the gold coin in the country was either in the Treasury or the banks. Silver dollar coinage had been discontinued in 1873 and few, if any, dollars of the old series were believed to be in circulation. Silver bullion in the Treasury was known. Subsidiary silver coinage circulated mainly on the Pacific coast.

Annual gold stock and subsidiary silver coin estimates, 1860–72, keyed to the Director of the Mint's 1873 estimates, were published by the Treasury in 1922. The figures were described as "only estimates" since the records are not complete for the early years.[1] The Treasury

[1] The 1860–72 estimates, which were first given in the 1922 Treasury annual report (p. 524), are described in the 1928 annual report (p. 551, footnote 1). In Treasury

and Director of Mint figures from 1860 on are the official U.S. gold stock series.

For dates before 1860 the only available official information is the amount of specie minted by the federal government and, beginning October 1820, annual exports and imports of the precious metals, at first for gold and silver combined and then, beginning 1825, separately for gold and silver. Estimates of the gold stock were made from time to time before the Civil War by official or private investigators. The estimates usually assumed a known stock at some date to serve as a base for subsequent calculations. To this, annual net imports were added, sometimes with corrections for unreported imports and exports and withdrawals into the arts.

The annual reporting of total specie in the Treasury began in 1879 (for gold, annual reporting began in 1876, for silver dollars and subsidiary silver, in 1878) and reporting on a current monthly basis began in 1887, with back figures monthly to June 1878. It is possible to derive estimated Treasury specie holdings annually back to 1860 (estimates for 1862–63, however, are lacking) by subtracting the amounts outside the Treasury from the stock, as shown in tables in the 1928 annual re-

publications, 1896–1921, the combined specie stock was shown unchanged at $25 million from 1862 to 1875.

The subsidiary coin estimates for 1873–77 in the Director of the Mint's 1887 report were revised in the 1922 Treasury annual report.

Through 1933 we define the stock of silver as consisting solely of silver dollars, whether held by the public, banks, the Treasury, or the mints. We exclude both subsidiary silver and silver bullion held by the Treasury and the mints through 1933. The coinage of standard silver dollars began in 1878, under the Act of Feb. 28, 1878. The 1873–77 figures for the silver stock in the Director of the Mint's report included silver bullion in the Treasury. These figures were reprinted in the 1922 Treasury annual report (no earlier figures were given).

The exclusion until 1933 of silver bullion from the monetary silver stock until coined was in line with the practice of the U.S. Treasury in its monthly *Circulation Statement*, 1887–1933. Upon the passage of the Silver Purchase Act of 1933, this practice was discontinued and silver bullion was included in the silver stock shown in the *Circulation Statement*. The rationale was that prompt additions to silver certificates were made by the Treasury upon the acquisition of silver bullion. We have followed Treasury practice for the years since 1933. Subsidiary silver, however, has been in a separate category throughout. Gold bullion in the Treasury has always been included in the monetary gold stock. The different treatment of silver bullion before and after 1933 does not affect the final estimates of specie held by the public but only the amount recorded as held by the Treasury.

A. P. Andrew's figures for the stock of standard dollars, 1878–1909, include the bullion in the Treasury at cost value (*Statistics for the United States, 1867–1909*, National Monetary Commission, 1910, S. Doc. 570, 61st Cong., 2nd sess., p. 156). For March 1887–June 1890, Andrew's figures for silver outside the Treasury apparently include an estimate of silver bullion held by banks and the public, which we never include in our stock series.

port of the Treasury. The description of the early specie stock figures as "only estimates" applies also to the amounts in Treasury.

None of the contemporary estimates of the pre-Civil War gold stock referred to specie in the Treasury: only specie in banks and in circulation. In Chapter 7, we examine the evidence on whether the Treasury held any specie before the Civil War.[2]

Data on the amount of specie in banks could be obtained as a by-product of the accumulation of banking statistics, but in the absence of estimates of the total stock and of amounts in the Treasury, no reliable estimates of the amount held by the public could be made.

Currency

Until the Civil War, most currency was issued by state banks. During the War of 1812, the Treasury issued interest-bearing notes that to some extent circulated as currency and that were widely used as bank reserves.[3] From 1791 to 1811 the First Bank of the United States and from 1816 to 1836 the Second Bank of the United States issued currency as well. Civil War currency issues—national bank notes, U.S. notes, other U.S. currency, and fractional currency—transformed the composition of the currency. After the Civil War, state bank notes were driven out of circulation; therefore the Civil War marks a watershed in data on currency: earlier the data came primarily from state banking authorities, later from the federal authorities responsible for the various types of national currency.

Before 1860, as indicated earlier, the Treasury reported only its money balance, not the form in which it was held, so that there is no direct information on the Treasury's currency holdings. In Chapter 7, we discuss the indirect evidence bearing on this question. From 1860

[2] There are two official versions of Treasury specie holdings before 1860, one shown in the Comptroller's annual report for 1894 and described as prepared by the Loan and Currency Division of the Treasury, and the other shown in the Treasury's annual report for 1906. The Comptroller's table, which shows specie in the Treasury—at decade intervals 1800–30, thereafter annually—is based on the yearly reported figures on money "balance in the Treasury," which were never designated as "specie in the Treasury." The table in the Treasury annual report, which bears the title "Balance in the Treasury," classifies the total from 1789 on into amounts in Treasury offices and amounts in depositary banks. If one reconciles the two official versions by assuming that the Comptroller's table mistakenly designates the Treasury's total balance as specie, it must still be determined whether the amounts in Treasury offices, as given in the Treasury table, were in fact held in specie.

[3] Interest-bearing Treasury notes were also issued in 1837–42, 1846, and 1857–60. They were receivable for all public dues but were not a legal tender. When issued in small denominations, as in 1840, the notes apparently served as currency.

on, the sources of information on the Treasury's holdings of currency are the same as those discussed above for its specie holdings.

Throughout, banking statistics—their coverage is discussed in the paragraphs that follow—provide information on the amount of currency held by banks. Information is generally more readily available for the stock of currency than for the stock of specie. Therefore the residual holdings of the public can be estimated with greater reliability for currency than for specie, even when Treasury holdings of currency are not known with certainty.

Banking Statistics

Of course, deposits were throughout a liability of banks, but the extent of reporting by different kinds of banks varied enormously. Private banks, that is, banks operating without a state or federal charter, reported little data, in many instances, none at all. These banks were important until quite recently. Banks chartered by states have sometimes been required to report to state banking authorities, sometimes not. Before the Civil War, the Second Bank of the United States reported data for each year of its existence, the First Bank reported virtually none, even though, like its successor, the First Bank was at times an important issuer of deposits held by the public as well as of notes. Fortunately, data for the First Bank, discovered in its manuscript records, have been made available to us and are presented in Table 13. For the period 1833–62, the Secretary of the Treasury, in compliance with a resolution of the House of Representatives passed in July 1832, compiled and published such banking statistics as he obtained in response to his annual call for information from the state banks.

With the establishment of the National Banking System figures for the national banks were published for several dates a year in the annual reports of the Comptroller of the Currency. To comply with an act of February 19, 1873, the Comptroller also began to publish balance sheets of nonnational banks for which he received reports from state banking authorities. Initially a relatively small and changing sample of nonnational banks was included. In part this incompleteness was due to the fact that not all nonnational banks were required by the states to submit reports. In 1887, the Comptroller began to obtain by correspondence information from banks not required to report. During the course of the following decades, the coverage gradually increased.

In 1910, the National Monetary Commission, which had been engaged in a searching investigation into monetary and banking systems throughout the world, issued a series of publications that comprised a major addition to the statistical record. A survey of the condition of virtually all U.S. banks in 1909 was the outcome of one of the commission's special inquiries. The commission also published special compilations of data already available (but not all previously published) in official reports, notably A. P. Andrew's *Statistics for the United States, 1867–1909* and the findings of special studies it sponsored and published, notably George E. Barnett's *State Banks and Trust Companies Since the Passage of the National Bank Act,* Edwin W. Kemmerer's *Seasonal Variations in the Relative Demand for Money and Capital in the United States,* and David Kinley's *Use of Credit Instruments in Payments in the United States.*

The Comptroller's reports, the reports of state banking authorities, and the National Monetary Commission studies are the main sources of banknote and deposit statistics for the five decades before the establishment of the Federal Reserve System. For the period 1863–95, when the Comptroller's coverage of nonnational banks is inadequate, data on assessments and also receipts of taxes levied by the federal government upon bank deposits until 1883 provide additional and more comprehensive information on deposits.

Since 1914, data are available for members of the Federal Reserve System, and since 1934, for banks insured by the FDIC. In addition, since 1947, the FDIC has compiled a comprehensive semiannual all-bank series.

Since banks have usually distinguished interbank from other deposits, and since Treasury deposits at banks are known, the distribution of total reported deposits among holders is less difficult to determine than the distribution of the stock of specie and currency. However, the adjustment of deposits held by the public for float presents problems, which are discussed in Chapters 7 and 8.

2. Accuracy of the Data

As in other fields, federal regulation, whatever may be its other returns or costs, has produced one gain: a probable improvement in the quan-

tity and generally in the quality of statistical data. For earlier periods, the quality of the specie figures must be assessed separately from that of the banking statistics.

Specie

The specie estimates before 1873 are subject to large errors.[4] After 1873, the official annual gold stock figures as revised by the Director of the Mint in 1907 are satisfactory.[5] The only change we deemed necessary in the series (apart from adjusting the unrevised monthly stock, 1878–1907, to the level of the revised annual series) was the restoration of $287 million to the gold stock figures that the Federal Reserve arbitrarily excluded, 1914–33.[6]

[4] Accompanying a table in the *Annual Report on the Finances,* 1854, p. 281, giving "estimates of the amount of gold and silver in the United States at different periods," is a list of eight reasons the amount cannot be "indisputably" known:

1. Lack of data on specie imports and exports before 1821
2. Concealment of transactions in bullion by merchants, and failure of custom-houses to report specie brought in by immigrants
3. Lack of data on silver brought in overland from Mexico
4. Lack of data on annual loss on coin by abrasion
5. Failure of census returns showing consumption of precious metals in manufactures, in gold and silverware, and in plating and gilding to distinguish old materials worked over from use of new bullion
6. Unreliability of mint returns as guide to coin in circulation—because foreign coins for many years constituted a major fraction of metallic currency, and mints in many years fabricated coins chiefly for export
7. Variability in the public's preference for bank notes over specie from year to year and from section to section of the country
8. "As the banks make their returns on different days, or different hours of the same day, the same pieces of gold and silver may figure successively in the accounts of several banks. In this way one million may be made to appear as two millions, and five millions as ten or fifteen millions. It is said that in old times the banks used to lend their specie to one another, in order that each might in its turn make a good show to the legislature. It is even said that with this object, specie in one city used to be placed temporarily to the credit of banks in other cities. When the quantity of specie in the country was small, the temptation to resort to such contrivances was greater than it is at present."

[5] Director of the Mint, *Annual Report,* 1907, p. 87. The Treasury Department official series of the gold stock suffers a break in its continuity on June 30, 1907, when it shifts to the lower level of the Director of the Mint's revised series. The official series has not been revised to put the figures for 1873–1906 on a comparable basis with later figures. The discontinuity also exists in the figures for gold outside the Treasury ("in circulation," in official jargon). See, for example, *Banking and Monetary Statistics,* Board of Governors of the Federal Reserve System, Washington, D.C., 1943, p. 408, and *Historical Statistics of the United States, Colonial Times to 1957,* Bureau of the Census, 1960, p. 649, Series X-285. A footnote in the latter source and some text discussion on p. 645 do, however, alert the reader to the discontinuity. It also exists in official series of the total currency stock and the currency outside the Treasury.

[6] It did so to allow for a supposed overestimate of the gold stock inferred, in our opinion erroneously, from the discrepancy between the recorded gold stock outside the Treasury and banks and the amount of gold turned in by the public in 1933 and 1934 when the private holding of gold was made illegal (see our *Monetary History,* pp. 463–464, footnote 45).

Estimates of specie held by banks before 1863 are probably also questionable,[7] as are estimates of specie held by the Treasury before the terminal years of the greenback period, except for 1847–61, when, on the basis of the evidence in Chapter 7, we may assume that all of the Treasury's money balance was held in specie. Hence estimates of specie held by the public for corresponding periods are not reliable. The reliability of estimates of specie held by banks after 1863 is best considered in the context of the banking statistics in general.

Banking Statistics

Investigators, including ourselves, who have not been content simply to use sums of unrefined reported data, particularly for the period before 1947, have had certain common problems in constructing acceptable estimates of aggregate monetary totals from the banking statistics: incompleteness of coverage, ambiguity of reported data, inaccuracy of reported data, and divergent dating of the data. These problems are considered in detail in Chapter 8 in connection with our description of the various estimates for the period since 1867, but a few advance comments may help put the later details in perspective.

The officially reported banking statistics that form the major single source of data for all estimates (except possibly the very earliest) have always been, and remain today, incomplete in their coverage, although today the gaps are miniscule. Every investigator has been plagued by the problem of nonreporting banks and has had to resort to additional information to estimate (at the very least) their number and often to arbitrary assumptions in order to allow for them in his estimates. For banks that did not report regularly to public authorities, records of the Bureau of Internal Revenue are useful for the periods 1864–83 and 1900–02, when taxes were levied on both deposits and capital of banks or on capital alone. Information on nonreporting banks has also been obtained for these and other periods from privately compiled directories of banks, special studies of the National Monetary Commission, publications of state finance or tax departments in instances where banks were subject to state taxes, studies made by individual students of banking, and records of the nonreporting banks themselves.

The nature of the incompleteness is dual: First, many banks—state banks particularly in early decades and private banks throughout—

[7] See item 8 of footnote 4, above.

reported regularly to no government authority. Second, many of the reports to state authorities were not included in the compilations of the federal government. Yet it was these compilations, not the original sources, that perforce were used by most investigators. For example, in constructing our own estimates, we started to supplement the national bank compilation by using all available state reports, but the labor involved was so great that we had to compromise on a sample. Comprehensive coverage of all banks, at annual dates, did not become available until 1959, when the Federal Reserve System published its compilation of these reports in *All-Bank Statistics,*[8] and even this compilation goes back only to 1896.

Even for reporting banks, the data have often been incomplete and ambiguous. The information requested by state or federal authorities depended on their regulatory purposes and varied from time to time along with these purposes and with the interests of the officials in charge of the agencies. A major factor in the ambiguity of the aggregate estimates was the changing and incomplete system of classification whereby deposits were variously classed as individual, i.e., deposits of the nonbank public, as opposed to interbank, and individual deposits were broken down into demand and time deposits.

The accuracy of the reported data is affected also by "window dressing." Before the Civil War, the dates at which banks were required to report to state banking authorities were generally specified in the state laws imposing the requirement. Knowing these dates, banks were able to adjust their balance sheets to appear in the most favorable light in the official report. National banks initially had the same opportunity to "window-dress." Under the National Banking Act of February 1863 they were required to make quarterly reports of their condition on the first Monday of January, April, July, and October. To eliminate window dressing the law was amended in March 1869: report dates were no longer stipulated in the act; thenceforth the Comptroller would "call" for the reports without advance notice. From 1870 to 1913, there were five calls annually, at dates which varied erratically from year to year. Similarly, state banking authorities designated for banks under their jurisdiction call dates which might or might not coincide with those chosen by the Comptroller and which might or might not afford an

[8] *All-Bank Statistics, United States, 1896–1955,* Board of Governors of the Federal Reserve System, Washington, D.C., 1959.

opportunity for window dressing. No investigator, including ourselves, has adjusted for possible window dressing.

The measures taken to prevent window dressing introduced a different source of error. Banking statistics show a sizable intraweekly movement—deposits are converted into currency for payroll purposes at the end of a week and the currency returns to banks in the early part of the week as pay is spent—as well as sizable seasonal movements. Hence, the varying dates of call, especially because they fell on different days of the week, introduced an appreciably erratic element in the currency figures. In addition, the report dates for nonnational banks, before and after the Civil War, often differed from state to state.

All estimates earlier than ours for the period before 1914 are annual. The general procedure for years up to 1863 was to use an arbitrarily chosen date like January 1 and to sum all the state data "closest to" that date, no matter how distant the individual report dates were in fact, and to describe the estimates as applying to January 1 of each year. For years after 1863 the general procedure was simply to use the national bank call date closest to June 30 along with a cluster of dates for nonnational banks close to June 30 and to describe the estimates as applying to June 30 of each year.

As the foregoing comments on the basic data and their accuracy indicate, monetary estimates of a crude sort can be constructed by ignoring the shortcomings of the data. More refined estimates require adjustment of the basic data. We shall trace the gradual introduction of refinements in the construction of monetary estimates in the next two chapters which review the work of our predecessors.