Federal Reserve Bank of Minneapolis
Research Department

Interbank Payments Relationships in the Antebellum United States: Evidence from Pennsylvania

Warren E. Weber*

November 2000
Preliminary
Comments invited

*Federal Reserve Bank of Minneapolis and University of Minnesota. I am indebted to Jeffrey Lacker, Neil Wallace, and Robert Wright for helpful comments on an earlier draft and to Shawn Hewitt and Karen Hovermale for research assistance. The views expressed herein are those of the author and not necessarily those of the Federal Reserve Bank of Minneapolis or the Federal Reserve System. Address correspondence to wew@res.mpls.frb.fed.us.

In the United States prior to the Civil War, banks played an important role in the country's payments system. They issued notes, which were the largest component of currency in circulation. They routinely discounted promissory notes and bills of exchange that their customers acquired as payment for the provision of goods and services. They also acted as guarantors of payments transactions.[1] In these ways, banks provided for the needs of their customers to make and receive payments and to settle debts.

Banks did not play their role in the country's payments system in isolation from each other, however. The desire of a bank's customers to make payments to people and businesses who were customers of other banks meant that banks had to deal with other banks in the normal course of business. This is shown in contemporary bank balance sheets. These balance sheets contain three items that pertain specifically to interbank relationships. As assets, banks held "notes (bills) of other banks" and had "due from (by) other banks." As liabilities, they had "due to other banks."

Virtually every bank had positive amounts of at least one of these items on its balance sheet at all times; the vast majority of banks had positive amounts of all three.[2] Further, the magnitudes of these interbank balance sheet items were large. The aggregate amounts of these three items for all U.S. banks, along with the total amount of bank assets, capital, circulation, and deposits, are presented in Table 1 for selected years. The table shows that between 11 and 20 percent of the total note circulation of banks was held by other banks. Due from other banks was between roughly 7 and 8 percent of total bank assets, roughly the order of magnitude as banks' holdings of specie, making this the second or third largest item

[1] For example, the practice of certifying checks was widespread during this period. See the discussion in Gibbons (1858), especially Chapter V.

[2] See Weber (2000).

on the asset side of the balance sheets of banks. Due to other banks was roughly between 10 and 15 percent of banks' total liabilities and was banks' third largest liability after circulation and deposits.[3]

Each of the three interbank balance sheet items arose from a different type of interaction between banks driven by the desires of customers to make payments and settle debts. The "notes of other banks" item occurred when a bank accepted the notes of other banks – in exchange for its own notes, in exchange for deposits with it, as settlement of promissory notes that had come due, or even in exchange for specie if the bank was acting as a redemption agent for other banks. The notes of other banks remained on the books of the bank accepting them until that bank either reissued them, redeemed them for specie at the issuing bank, or cleared them in some other way.

The "due from other banks" item arose in several ways. One was when a bank accepted from its customers for deposit or note settlement certified checks drawn on another bank. Since certified checks were liabilities of the certifying bank, not of the payor of the check, the accepting bank likely carried them on its books under this heading.[4] A second way was through collection notes. In the normal course of business, manufacturers, jobbers, and retailers would receive promissory notes from customers. Such notes commonly ended up at banks. In some cases, this occurred because the bank discounted them for the drawee. If such notes had been certified by the drawer's bank, they would appear as a due from other banks

[3]Nominal GNP is also presented in Table 1 to facilitate comparison with magnitudes today. Ignoring 1840, which is an outlier due to the changes in bank structure and regulation that occurred around that time, the table shows that circulation was about the same fraction of GNP, banks assets' were about half the fraction of GNP, and bank capital was about twice the fraction of GNP in the 1840s and 1850s as they are now.

[4]There are cases in which checks are listed separately or combined with notes of other banks in bank balance sheets, however.

item. Also, it was a common practice for a bank to send notes from people, businesses and banks outside its immediate vicinity (so-called "foreign notes") to a bank in that area, which would then act as a collection agent.[5] Such notes sent to other banks for collection would appear on a bank's balance sheet as due from other banks. A third way "due froms" arose was through a bank establishing a correspondent relationship with another (the respondent) bank. The correspondent bank would maintain a deposit at its respondent in exchange for services – such as redemption of the correspondent's notes (usually, but not necessarily, at par), exchange or deposit of the notes of other banks, and the ability to obtain drafts upon the respondent for its customers. This deposit appeared on the books of the correspondent as due from other banks.

The "due to other banks" item represented liabilities generated on the balance sheets of counterparties to the transactions that gave rise to the due froms.

While there exist qualitative discussions of interbank relationships in contemporary sources such as Gibbons (1858), not much is known quantitatively about such relationships anywhere in the country during the antebellum period.[6] A major reason is that on most extant bank balance sheets for the antebellum period, only the total amounts of "bills of other

[5] According to Gibbons (1858), "It is the practice of the banks in New York to make their collections for a district of the country through some one bank, which has an established correspondence with all parts of it. For instance, a bank in Albany or Troy will collect notes in all the adjacent counties more promptly and cheaply than it could be done by separate correspondence of the city bank with each town." (pp. 219-20) Chapter VIII of this book contains a general description of collection notes.

[6] One exception is the clearing arrangements for banknotes in New England due to banks' acceptance of the notes of other banks, which have been the subject of extensive study and debate. Banknote clearing in that part of the country was done by the Suffolk Banking System, which existed from 1825 to 1858. Under that System, the Suffolk Bank provided for net clearing of banknotes at par for banks that maintained a non-interest bearing deposit of specie with it or provided for their notes to be redeemed at par at another Boston bank. The Suffolk Bank also provided overdraft facilities for banks whose deposits temporarily fell below the required amount. Virtually all banks in New England were part of the Suffolk Banking System from the mid-1830s until the late 1850s. Not much is known about note clearing arrangements outside of New England.

banks," "due from (by) other banks," and "due to other banks" are listed. These interbank balance sheet items are not disaggregated by the individual debtor or creditor bank. Thus, while the existence of these items on bank balance sheets documents the existence of interbank relationships, the aggregate nature of the reporting does not provide much quantitative information on the organization, stability, and geographical extent of such relationships.

I have discovered a previously unknown micro-data set that contains some disaggregated data on interbank balance sheet items. For the period 1851 to 1859, a sample of Pennsylvania banks reported "due from other banks" by individual debtor bank. The purpose of this paper is to provide some quantitative facts about the organization, stability, and geographical extent of relationships between individual banks based on these disaggregated data.

The general conclusion that I draw from the facts I obtain is that interbank relationships were structured to accommodate the needs of bank customers to make and receive payments and to settle debt. Further, since the needs of customers of Philadelphia banks, of Pittsburgh banks, and of country banks (banks outside those two cities) could be expected to be different, the structure of interbank relationships for each of these classes of banks could be expected to be different. I find that they were.

The paper proceeds as follows. Section 1 describes the data. Section 2 describes the research design. Facts about the overall nature of interbank relationships and the correlation of these relationships with trade payments for Pennsylvania country banks are presented in Section 3. The same is done for Philadelphia and Pittsburgh banks in Sections 4 and 5, respectively. Section 5 concludes.

1. The data

For Pennsylvania, there exist detailed microdata on interbank relationships for 1851 through 1859. In particular, for 1851 to 1857, due froms are reported on a debtor bank-by-debtor bank basis for a reasonably large subset of banks. For a somewhat smaller subset of banks, due tos are also reported on a creditor bank-by-creditor bank basis. For 1858 and 1859, debtor bank-by-debtor bank breakdowns of due froms are available for virtually every Pennsylvania bank in existence. Almost no creditor bank-by-creditor bank information on due tos is presented for these years, however.[7] Because there is the most information on due froms, I concentrate this study on that balance sheet item. Thus, the basic data set consists of the amounts due by individual debtor to each Pennsylvania bank in the sample for each of the years 1851 through 1859.[8] Insolvent debtor banks were omitted from the data set since such observations did not involve relationships between active banks. Such banks only appeared in the data for the years 1858 and 1859. The final data set consists of 1934 observations, where an observation is an amount due from a debtor bank to a creditor bank.

All data are from around the first of November. Although in some years information was available for other times of the year, I chose to use November data because November was the time in each year for which the most banks reported due froms on an individual debtor bank basis. Having data all taken from around the same time of year could cause a bias in the results if there was some seasonality to the nature or extent of interbank relationships. Another problem with the choice of November is that banks were suspended in November

[7] Unfortunately, no bank-by-bank breakdown of banks' holdings of bills of other banks is available for 1851 through 1859.

[8] Bank-by-bank data on due froms and due tos are also available for 1842. I omitted this observation from the sample since it appeared to be an outlier compared to the 1850s.

1857, and that suspension could have distorted normal interbank relationships. Nonetheless, I think that the advantages of having the additional data outweigh the potential problems with the timing choice for the data.

There were two problems with the raw data that had to be resolved before the data set could be used. First, debtor banks had to be identified consistently. Some debtor banks were designated differently in the balance sheets of different creditor banks or even in the balance sheets of a particular creditor bank in different years. Second, the location of some debtor banks had to be determined, because their location was not given in the balance sheets. For chartered banks these two problems were resolved by using the index of banks and the information on the times that banks were in existence in Haxby (1988). For private banks, these problems were resolved by using the "List of Private Bankers" in various issues of Banker's Magazine (1853-1860). It was possible to resolve these problems in all but a few cases. For only 21 observations was I unable to satisfactorily resolve both the correct name and the location of the debtor bank.

The number of banks for which disaggregated information on due froms is available by year is given in the first row of Table 2. The total number of banks in existence in Pennsylvania in each year is given in the second row of that table. These numbers show that for 1858 and 1859, disaggregated information on due from other banks is available for all except one Pennsylvania bank. For the other years, the information is available for approximately half of the banks in existence at that time. The existence of virtually complete information on due froms for 1858 and 1859 provides a benchmark against which to check how representative is the earlier information, which is based on only a sample of the bank population.

Some information on the extensiveness of interbank relationships for all Pennsylvania banks during this period is also presented in Table 2. Rows three through nine of the table show that Pennsylvania banks had relationships with large numbers of other banks.[9] The average number of other banks from which a bank had amounts due was roughly between 12 and 14; the median number was approximately 11 or 12. The range was between 1 and 53. These numbers are relatively constant over time and, except for the upper end on the range of the number of debtor banks, do not appear to be affected by the fact that the early observations are for only a subset of banks. Further, in the aggregate, the number of other banks from which Pennsylvania banks had amounts due ranged from 119 in 1851, the year with the smallest sample of banks, to 333 in 1859, the year with the largest sample of banks. Taking all nine years together, Pennsylvania banks had amounts due from 542 different banks.

Given this large number of debtor banks, it is obvious that Pennsylvania banks had to have relationships with banks outside the state as well as banks within the state. Rows eight and nine of Table 2 show that, except for 1851, Pennsylvania banks had amounts due from at least twice as many banks outside of the state as from instate banks and that this ratio of outstate banks to instate banks grew over time. Further, these non-Pennsylvania banks were located in a large number of other states. Overall, Pennsylvania banks had amounts due from banks in 27 of the other 33 states (including the District of Columbia as a state) in the Union in November 1859.[10]

[9] I am using the term *banks* here to include bank branches, private banks, and savings institutions. For this reason, the number of banks in Pennsylvania with which Pennsylvania banks had due froms could be larger than the total number of banks in existence in Pennsylvania, as is the case when rows two and six are compared.

[10] Pennsylvania banks did not have amounts due from banks in Arkansas, Florida, Maine, New Hampshire, Oregon, and Texas.

At this point, I drop three banks – the Central Bank of Pennsylvania, the Pittston Bank, and the Bank of Phoenixville – from the sample. I have information on these banks for only a single year, and I want to consider long-term types of interbank relationships. Thus, I am left with a sample of 78 banks.

2. Research design

The research design is to divide the sample of banks into three classes – country banks, banks outside of Philadelphia and Pittsburgh; banks in Philadelphia; and banks in Pittsburgh. I provide quantitative information on the size, organization, stability, and geographical extent of the interbank relationships of each of these classes of banks. Further, I organize this quantitative information into "facts" about the structure of interbank relationships for each of these classes of banks.

There are two reasons for this choice of research design. The first, mentioned above, is that since the needs of the customers of each of these classes of banks could be expected to be different for reasons that have to do with location, the structure of interbank relationships could be expected to be different as well. The second is that there were differences in the characteristics of these banks that could have affected how they interacted with other banks. Specifically,

- *Country banks.* Country banks were generally small; the capital stock of country banks averaged around \$200,000. The largest country bank was the Farmers Bank of Reading with capital of \$500,010, making it the eleventh largest bank in the state; the smallest was the Shamokin Bank with capital of only \$38,750. Country banks were net creditors to other banks. Country banks had amounts due from other banks that totalled between two and four times the total amounts that they owed to other banks. Country banks had few relationships with other banks. On average, they had amounts due from between 8 and 11 other banks at any point in time.

- *Philadelphia banks.* Philadelphia banks were the complete opposite of country banks. Philadelphia banks were generally large; the average capital of Philadelphia banks was over $600,000, and seven of the ten largest banks in Pennsylvania in 1859 were located there. Philadelphia banks were net debtors to other banks. Philadelphia banks owed between 1.5 and 3.5 times more to other banks than other banks owed them. Philadelphia banks had relationships with a large number of other banks, but the average amount due per bank was relatively small. On average, Philadelphia banks had amounts due from between 19 and 26 other banks at any point in time, but the average amount due from a debtor bank was only between $1600 and $5200.
- *Pittsburgh banks.* Pittsburgh banks had some of the characteristics of Philadelphia banks and some of country banks. Like Philadelphia banks, Pittsburgh banks were large. The average capital of Pittsburgh banks was approximately the same as that of Philadelphia banks, and Pittsburgh banks were the fourth, seventh, and ninth largest in the state. Also, like Philadelphia banks, Pittsburgh banks had relationships with a large number of other banks, between 16 and 32 other banks at each point in time. However, unlike Philadelphia banks, the average amount due from a debtor bank was large, generally more than $5,000. Pittsburgh banks were like country banks in that they were net creditors to other banks. Total due froms were generally 3 to 6 times larger than total due tos. However, this ratio declined as four banks entered the market beginning in 1857.

3. Country banks

There are 53 country banks in the sample.[11] Most were located in what could roughly be called the southeastern quadrant of the state. In addition, there were several banks located around Pittsburgh and several located along the northern and northeastern border with New York.

To obtain facts about the overall structure of interbank relationships in Pennsylvania, I first consider banks' relationships with banks in nearby major financial centers. Then I consider banks' relationships with other country banks both in Pennsylvania and neighboring states.

There are three major facts about the relationship between Pennsylvania country banks and banks in nearby financial centers – either Philadelphia, New York, Baltimore, or Pittsburgh.[12] The first is that these relationships were large. The second is that virtually all country banks had a long-lasting and stable correspondent banking relationship with a single respondent bank in at most two of those cities. The third is that the choice of correspondent was highly correlated with the major terminus of the railroad line running through the town in which the bank was located.

The large financial relationships that Pennsylvania country banks had with banks in financial centers is shown in the first row of Table 3. This table shows that in every year covered by the sample, the amounts due from banks in financial centers were about 80 percent

[11] The Erie City Bank in Erie was reorganized as the Bank of Commerce in 1856. The structure of its due froms after the reorganization was different from that before the reorganization. Thus, I treat it as if it were two banks in my discussion.

[12] In terms of population in 1860, New York (813,669), Philadelphia (565,529), and Baltimore (212,418) were the first, second, and fourth largest cities in the United States. Pittsburgh (49,221) was only the seventeenth largest, but I include it as a financial center because of its size relative to surrounding towns and because of its strategic location.

or more of total due froms. Further, the average amount due from an individual debtor bank in a financial center was also large. The second row of the table shows that this amount was always larger than \$8,700 and was as large as \$20,000 in some years.

Given the large number of country banks in the sample, I wanted to determine whether the results in Table 3 were common to most country banks or whether they were skewed by the balance sheets of just a few banks. What I found is that they were common to most country banks. This is shown in Table 4, where for each Pennsylvania country bank I present the yearly amounts due from banks in one of the four financial centers as a percentage of total due froms. The table shows that for all but 7 of the banks in the sample, the amount due from banks in the four financial centers was almost always above 50 percent in all years, and in the vast majority of cases it was 80 percent or more of the total in all years.[13]

Next, I disaggregated the percentage of due froms for country banks by financial center. I found that country banks dealt mostly with banks in no more than two financial centers and that it was most common for banks to deal with banks in only one financial center. Specifically, 36 (out of 53) country banks had amounts due from banks in only one of the four financial centers. Another 7 had amounts due from banks in two of the financial centers. Only one bank had significant amounts due from banks in three of the centers. No bank had amounts due from all four, and two banks shifted between banks in different financial centers.

The locations of the financial center banks with which Pennsylvania country banks

[13]The seven banks which did not exhibit this characteristic are the Bank of Middletown, which had significant amounts due from a nonbank located in Harrisburg; the Jersey Shore Bank; the Lebanon Bank; the Shamokin Bank; the Union Bank of Reading; the York Bank; and the York County Bank, all of which had significant amounts due from other Pennsylvania country banks.

Even though the percentage of amounts due from banks in financial centers was smaller than this criteria for the Bank of Crawford County and the Bank of New Castle/Lawrence County, I included them in this count. The reason is discussed at the end of this section.

dealt extensively are shown in Table 5. This table shows that 33 Pennsylvania country banks had significant dealings with banks in Philadelphia, 12 with banks in New York City, 5 with banks in Pittsburgh, and 3 with banks in Baltimore.

The second fact about country banks is that their relationship with banks in financial centers was in the nature of a correspondent banking relationship. That is, in exchange for a deposit, which was very likely initially made in specie and appeared on the country bank's books as a due from, a financial center respondent bank agreed to provide various financial services for the country bank. Further, this correspondent banking relationship was long-lasting and stable.

One piece of evidence in support of this conclusion is that the amounts due from banks in financial centers were almost exclusively due from a single bank in that center. This was the case for all but 3 of the 46 country banks that had the vast majority of their due froms with banks in financial centers.

The evidence in Table 5 also suggests that the correspondent banking relationships established by country banks were stable and long-lasting. If a country bank had the overwhelming amount of due froms with a particular bank in a financial center over the entire sample, I have listed that bank next to the country bank in the table. If there was not a single major financial center bank over the entire sample, but there was a one time only switch from one major bank early in the sample to another later in the sample, these banks are listed separated by "$\Longrightarrow$". When a country bank had large amounts due from major banks in each of two different financial centers over the entire sample, these are listed separated by "/". (The three country banks which had large amounts due from banks in financial centers but for which there did not appear to be a long lasting relationship have "various banks" listed next to them.)

Before I discuss the evidence in the table, it must be noted that the Bank of Pennsylvania closed in 1857, so that banks that had correspondent banking relationships with it had to switch to another bank. Thus, I think it is reasonable to consider banks that switched from the Bank of Pennsylvania to a single other correspondent as having the same respondent over the entire period. Of the 42 banks listed in the table that could be considered to have had correspondent banking relationships, 37 had this relationship with the same bank over the entire sample period.

That country banks had correspondent banking relationships with banks in a financial center makes sense if local merchants were buying goods from wholesalers or manufacturers in the financial center because of the payments services that a respondent bank could offer directly to the bank and could enable a bank to offer to its customers. One service would be to allow the country bank or its customers to draw upon the financial center respondent to make payments to suppliers or to settle debts with creditors.

Another service, very likely, was to redeem the notes of the bank at par, certainly in terms of the notes of the financial center bank and perhaps even in terms of specie. This suggests at a minimum that notes of banks outside of Philadelphia were carried to that city and very likely circulated there. Having a correspondent provide the service of note redemption would have promoted the circulation of a bank's notes. With a redemption agent in a financial center, the notes of a country bank would have been accepted at a smaller discount in that financial center than might have been the case otherwise. This provided a bank with another medium of exchange that it could provide to its customers, which meant that the bank could get more notes in circulation or that its notes would stay in circulation longer or both. Some evidence that respondent banks provided such a service is provided in Table 6 below. The table shows that on average Philadelphia banks held more notes of other banks than they had their own notes in circulation. Thus, at least some of the notes held by Philadelphia banks had to come from outside the city.

If the location of correspondents was related to making payments and settling debts, then the choice of correspondents should have been governed by the direction of trade. It is reasonable to argue that trade direction during this period would have been determined to a large extent by railroads. The second fact about country banks that I want to establish is that the choice of correspondent was highly correlated with the location of a major terminus of the railroad line running through the town in which the bank was located.

Using "Barringtons new and reliable railroad map and shippers & travellers guide of Pennsylvania," created in 1860, which is shown in Figures 1 and 2, I determined that all but 6 Pennsylvania country banks were located on railroad lines. The locations of banks with correspondents in Philadelphia is shown in Figure 1. It can be seen that with the exception of a couple of banks in the far southwestern part of the state, all of the banks with correspondents in Philadelphia were located on railroads lines that had Philadelphia as their hub – examples are the Pennsylvania Rail Road, the Philadelphia & Reading Rail Road, and the Philadelphia, Germantown & Norristown Rail Road – or on railroad lines that connected directly to these lines – examples are the Sunbury & Erie Rail Road and the Lehigh Valley Rail Road.

The location of banks with correspondents in New York City is shown in Figure 2. These banks were located in towns that were located either on the New York & Erie Rail Road, which had a terminus in New York City; on railroads, like the Sunbury & Erie that fed into the New York & Erie; or on railroads like the Lehigh Valley Railroad that connected to the New Jersey Central Railroad that had its terminus in New York City.

The regularity is less pronounced for Pittsburgh, because two of the country banks with correspondent relationships with Pittsburgh banks were not located on railroad lines. Nonetheless, all of the banks which had correspondent relationships with banks in Pittsburgh were located in the southwestern part of Pennsylvania, and Figures 1 and 2 show that part of the state was served by railroad lines with Pittsburgh as a major terminus. Two of the three banks with correspondent relationships with Baltimore banks were located on railroad lines which either led directly or corrected to lines that led directly to that city.

I now consider Pennsylvania country banks' relationships with other country banks both in Pennsylvania and neighboring states. The two facts here are (1) that Pennsylvania country banks' dealings with other banks were small both in size and in number of other bank and (2) that Pennsylvania banks and the banks (including private banks) with which they dealt were almost exclusively located in the immediate vicinity.

On average, Pennsylvania country banks had 20 percent or less of their due froms with banks located outside of financial centers. This is shown in row 3 of Table 3. Further, row 6 shows that the average amounts due from such banks were small, on the order of $1,500 to $2,500 per debtor bank. Further, Pennsylvania country banks had amounts due from only five or six other country banks at any point in time. As I will show later, this is much smaller than the number of other banks that either Philadelphia or Pittsburgh banks' had amounts due from.

I also examined Pennsylvania country banks' due froms with banks (including private banks) outside of financial centers on a individual country bank-by-country bank basis. Only in a few cases did I find a Pennsylvania country bank that had amounts due from banks that were not located nearby. This indicates that Pennsylvania country banks' contacts with banks outside of financial centers were limited to banks in their immediate vicinity. This conclusion is supported by row 4 of Table 3.

I also computed another measure of Pennsylvania banks' contacts with other banks. Over the sample period, 1310 possible pairwise contacts between banks were possible.[14] Only 198 (or 15 percent of the possible) contacts occurred.

Of course, I did find a few cases in which a Pennsylvania bank had amounts due from banks located quite a distance away. One example was the York Bank, which had small amounts due from the Globe Bank in Boston in virtually every year. Another was the Monongahela Bank of Brownsville (near Pittsburgh), which had amounts due from the State Bank of Missouri in several years. The most interesting exceptions were the Bank of Crawford County in Mercer (northeast corner of the state) and the Erie County Bank, which became the Bank of Commerce in Erie. Both of these banks had a sizable fraction of their due froms with banks in Wisconsin – the Bank of Eau Claire and the Bank of Montello in the case of the Bank of Crawford County and the Fox River Bank in Green Bay in the case of the Erie County Bank. I surmise, but have no evidence to support, that these banks had entered into agreements with these other banks to attempt to get each other's notes in circulation, perhaps a kind of wildcat banking scheme.

[14] For this computation I have a sample of 52 banks. See footnote 11. The Lancaster Bank went out of existence before November 1856, so that it could not have matched with any of the 16 banks that first appear in the sample at that time. Thus, the possible number of pairwise contacts is

$$\frac{52(51)}{2} - 16 = 1310.$$

4. Philadelphia banks

I now consider the 19 Philadelphia banks in the sample.[15] There are two parts to the structure of Philadelphia banks' interbank relationships that I consider. The first is that Philadelphia banks acted as respondents for country banks in Pennsylvania and presumably in neighboring states as well. This would have made it easier for customers of those banks to make payments to and settle debts with people and businesses in that city. The second is that they had amounts due from noncorrespondent banks, which presumably were the result of payments made to their customers.

That Philadelphia banks provided respondent banking services was documented in the previous section. This evidence further suggests three facts about the Philadelphia respondent banking market. These facts are that this market was not highly concentrated, that entry was easy, and that there was no geographic specialization by respondents.

Table 5 provides two pieces of evidence that the Philadelphia respondent banking market was not highly concentrated. Twelve different Philadelphia banks served as correspondents for at least one Pennsylvania country bank. (In general these banks tended to be the larger and more well established, in terms of length of time in business.) Further, although the table shows that 33 Pennsylvania country banks had correspondents in Philadelphia, at no time did any individual Philadelphia bank serve as the respondent for more than 7 country banks.

The evidence on entry supports, albeit weakly, the conclusion that it was easy. When

[15] One unfortunate aspect of the sample is that I have no information on the amounts due to the Bank of Pennsylvania, a large Philadelphia bank that failed in 1857, from other banks. Nonetheless, I include it in the calcuations in Table 6 for the years 1851 through 1856, because it was a large bank and appears, from the information in Table 5, to have been an important player in the interbank market when it was in existence.

the Anthracite Bank of Tamaqua had to switch correspondents in 1857 due to the closing of the Bank of Pennsylvania, it chose the City Bank, which had been established only a year or two earlier. And the Octorara Bank, which opened in 1858, chose as its respondent the Commonwealth Bank, which opened the same year.

Finally, it does not appear that there was any geographical specialization in the Philadelphia correspondent banking market in the sense that a Philadelphia bank's correspondents were located in the same area. Some evidence is given in Figure 3, where for 1859 the locations of the correspondents of the six Philadelphia banks with the largest number of correspondent banks are shown. Although there are a couple of cases in which two correspondent banks of the same respondent are located close to each other, the figure shows that in general a Philadelphia bank's correspondent banks were geographically disbursed.

A possible reason could be that banks near each other would be competing for business. Thus, they would not want to share a respondent which could possibly divulge information to a competitor.

With regard to relationships with noncorrespondent banks, two facts emerge from the data. The first is that Philadelphia banks had relationships with a large number of other banks, but the relationships were small, on average. This is shown in the first two rows of Table 6. Philadelphia banks, on average, had amounts due from between 20 and 26 other banks. However, the average amount due from each debtor bank was never much above \$5,000 and was usually on the order of \$2,500.

The second fact about Philadelphia banks' relationships with other banks is that Philadelphia banks primarily dealt with banks in Pennsylvania and neighboring states. This is shown in the third row of Table 6, where I present the percentage of due froms for Philadelphia banks with other Philadelphia banks and with banks in Delaware, the District of Columbia, Maryland, New Jersey, Virginia, and Pennsylvania outside of Philadelphia. The table shows that Philadelphia banks usually had about 75 percent of their due froms with banks in Pennsylvania and neighboring states, although the percentage did fall to around 60 percent in 1857 and 1858.

My interpretation of this fact is that Philadelphia banks had customers who regularly dealt with people and businesses over a much wider area than customers of a typical country bank, but who were still primarily concentrated in Pennsylvania and nearby states. In many cases, instead of requiring funds drawn on either itself or another Philadelphia bank, a Philadelphia bank would accept as deposits by its customers promissory notes or checks certified by other banks. These appeared on the Philadelphia bank's books as a due from until cleared.

The pattern of Philadelphia banks' relationships with other banks does not appear to have been stable over time, however. Instead, there appears to be a shift in the pattern. Between 1851 and 1855, Philadelphia banks had a substantial percentage (between 35 and 50 percent) of due froms with other Philadelphia banks. Beginning in 1856, however, this percentage fell and was about 20 percent or less after that point. This is shown in row 4 of Table 6. In row 5 of the table, it appears that the decrease in the amounts due from Philadelphia banks was compensated for by an increase in the amounts due from banks in neighboring states. This shift is actually more pronounced if one looks at the data on an individual bank basis. This shift cannot have been due to the establishment of a clearinghouse in Philadelphia, because that did not occur until 1858. I have no explanation to offer.

There is another interesting regularity in the data. With only a few exceptions, Philadelphia banks had no amounts due from banks in New York City.[16] The percentage of due froms with New York City banks is less than five percent in all years except 1857 and 1858 as shown in the bottom row of Table 6. The evidence is even stronger on a bank-by-bank basis. In almost all cases, individual Philadelphia banks had nothing due from banks in New York City.

A possible interpretation of this result is that there was little trade or financial linkage between the two cities. This does not seem plausible. Further, it is refuted by some evidence on the amounts that three Philadelphia banks owed to other banks on an individual bank basis (that is, due *tos* by creditor bank). For the Bank of the Northern Liberties I have due tos by creditor bank for 1851 and 1853 through 1857. It owed \$20,000 or more to the American Exchange Bank in New York City in every year except 1853, when that bank owed it \$18,000. My due to evidence for the Bank of Penn Township is for 1856 and 1857. In each year, it owed large amounts (\$35,000 and \$12,000 for 1856 and 1857, respectively) to the Chemical Bank in New York City. Lastly, I have due to evidence for the Bank of Commerce for 1857. It owed over \$15,000 to the Manhattan Bank in that year.

Thus, my interpretation of the evidence is there were strong financial linkages between the two cities, but that the nature of interbank relationships between banks in the two cities was not of the correspondent-respondent type as were those between Philadelphia banks and Pennsylvania country banks. Instead, it was the case that checks and drafts on large, well-established Philadelphia banks were readily acceptable as means of payment in New York City and vice versa.

[16] Of course, accepting and clearing each other's notes would not be picked up by the data that I have.

5. Pittsburgh banks

Finally, I consider the seven Pittsburgh banks in the sample. Of these seven banks, only three – the Bank of Pittsburgh, the Exchange Bank of Pittsburgh, and the Merchants & Manufacturers Bank of Pittsburgh – were in existence in 1851. The Mechanics Bank of Pittsburgh started business in 1855 and the Iron City Bank in 1857. The Citizens Deposit Bank of Pittsburgh, basically a savings bank, converted to the Citizens Bank of Pittsburgh in 1857. Further, I have included the Allegheny Bank as a Pittsburgh bank through the entire period since it moved to Pittsburgh in 1858, after beginning business in Allegheny in 1857.

In terms of their relationships with other banks, Pittsburgh banks looked like Pennsylvania country banks in their dealings with banks in major financial centers and like Philadelphia banks in their dealings with other banks. That is, Pittsburgh banks, at least the larger and more established ones, had relationships that looked like correspondent banking relationships with banks in New York City and Philadelphia, enabling their notes to be redeemed at and their customers to draw upon banks in those cities. In terms of dealings with other banks, Pittsburgh banks dealt with a large number of other banks mainly in cities and towns that lay along the major trade route of the Ohio and Mississippi rivers.

The relationships that Pittsburgh banks had with banks in financial centers were large both as a percentage of their total due froms and in absolute value. This is shown in the first two rows of Table 7. Except for 1857, which appears to be an anomaly possibly due to the panic that year, and 1859, the sixty percent or more of Pittsburgh banks' due froms were with banks in financial centers. Further, the average amount of these due froms was large – \$13,000 or more.

Further, it appears that the type of banking relationship that Pittsburgh banks had with banks in New York City and Philadelphia were of the correspondent-type. Specifically,

- The Bank of Pittsburgh had amounts due from a bank in New York City in every year except 1857. Until 1854, this was the Mechanics' Bank in the City of New York; after that, the Bank of Commerce. Also, it had large amounts due from the Farmers & Mechanics Bank in the City of Philadelphia through 1857 and small amounts due in 1858 and 1859.
- The Exchange Bank had large amounts due from the Bank of America in New York City and from the Western Bank of Philadelphia in all years except 1857.
- The Mechanics' Bank of Pittsburgh had large amounts due from the American Exchange Bank in New York City and from the Bank of North America in Philadelphia in 1855 (the first year for which I have data), 1856 and 1858.
- The Merchants and Manufacturers Bank of Pittsburgh had large amounts due from the Manhattan Company in New York City and from the Farmers & Mechanics Bank of the City of Philadelphia in 1858 (the first year for which I have data) and somewhat smaller amounts due from these banks in 1859.
- The Iron City Bank (established in 1857) had reasonably large amounts due from the Chemical Bank in New York City and from the Mechanics Bank in the City and County of Philadelphia from 1857 through 1859.
- Neither the Allegheny Bank nor the Citizens Bank, both of which were smaller and newer banks, appears to have had correspondent relationships with banks in either New York City or Philadelphia.

It is also interesting to note that, with one exception, no two Pittsburgh banks had the same respondent bank in Philadelphia and New York City. As was hypothesized for country banks, the possible reason could be that these banks would be competing for business. Thus, they would not want to share a respondent which could possibly divulge information to a competitor.

In terms of their dealings with banks outside of New York City and Philadelphia, Pittsburgh banks looked more like Philadelphia banks than country banks in the sense that they dealt with large numbers of banks and with banks from outside the local geographical area, but they looked more like country banks in that the average amount owed by debtor banks was small. This is shown in rows 3 and 4 of Table 7. On average, Pittsburgh banks had amounts due from between 10 and 20 banks outside of financial centers, the same order of magnitude as Philadelphia banks. However, the average of each due from was only between \$1,200 and \$3,600, the same order of magnitude as the average due from for country banks.

Another major difference between Pittsburgh banks and Philadelphia banks, which is to be expected, is that Pittsburgh banks dealt extensively with banks in "Western" states that bordered the Ohio and Mississippi rivers, whereas Philadelphia banks dealt primarily with Eastern banks. This is shown in the last two rows of Table 7, where I show the percentage of due froms by banks in Indiana, Kentucky, Louisiana (which is entirely banks in New Orleans), Missouri, Ohio, and Tennessee.

6. Conclusion

This paper examines the interbank relationships of Pennsylvania state banks using a previously unknown data set on due froms on an individual debtor bank-by-debtor bank basis over the period 1851 to 1859. The general conclusion is that these relationships were structured to accommodate the needs of bank customers to make and receive payments and to settle debt. Customers of Pennsylvania country banks needed to make payments in financial centers and to receive payments from people and businesses in the surrounding area. Hence, they had a correspondent banking relationship with a bank in one or more financial centers and accepted obligations drawn on banks nearby. Philadelphia banks had both other banks and people and businesses as customers. They acted as respondents for their bank customers and accepted obligations drawn on banks in Pennsylvania and neighboring states. Pittsburgh banks had customers very much like those of country banks. Thus, Pittsburgh banks had correspondent banking relationships with banks in New York City and Philadelphia and accepted obligations drawn on banks in states that bordered the Ohio and Mississippi rivers.

This study covers only one state for a period of less than 10 years. Some natural questions are, How general are the results? Did country banks generally have correspondents in major financial centers? Were other respondent bank markets not highly concentrated?

Unfortunately, I have not been able to find comparable data for other states or time periods. However, there is some evidence that the results with regard to country banks having correspondent banking relationships with banks in financial centers are general. In some bank statements for the late 1820s and early 1830s, some banks in New Jersey list the banks from which they have amounts due. These due froms are generally from a single bank in New York City, and it is the same bank over time. Also, in some statements for Vermont banks, there is a special category for funds due from banks in Troy and Albany. There is also confirmation from A. B. Johnson, the President of the Ontario Branch Bank in Utica, N.Y.:

> The selling of drafts on New York becomes ... one of the regular sources of

> profit to country banks, as well as of convenience to men of business; *and every country bank keeps funds there*, and keeps funds in Albany, Boston, or other places, for the purpose of selling drafts thereon at a premium, when the business of its vicinity makes drafts on such places desireable [emphasis added] (Johnson 1857, p. 26).

With regard to other respondent bank markets, the results may not be general. The evidence from this study and the New Jersey evidence mentioned above indicate that the respondent bank market in New York City may also have had a low degree of concentration. However, nearly all note-clearing in New England was done by the Suffolk Bank, suggesting that the market was highly concentrated.

There is also an anomaly in the data that appears worthy of further research. In the panic year 1857, Pittsburgh banks markedly decreased the amounts due from Philadelphia and New York City banks both in percentage terms and dollar terms. The contrast of 1857 with other years stands out especially in the data for the Bank of Pittsburgh and the Exchange Bank of Pittsburgh. In 1856 and 1858, the Bank of Pittsburgh had $129,882.47 and $155,547.86, respectively, due from the Bank of Commerce in New York City. In 1857 it had only $2355.96 due from that bank. In 1856 and 1858, the Exchange Bank of Pittsburgh had $42,083.03 and $50,356.03, respectively, due from the Bank of America in New York City. In 1857, it had nothing due from that bank. For the Exchange Bank of Pittsburgh, the same pattern held from the amounts it had due from the Western Bank of Philadelphia. I have no explanation for this behavior during a panic period. However, neither the due froms for Philadelphia banks nor those for Pennsylvania country banks exhibited such behavior.

References

Banker's Magazine. 1853-1860. The merchant's and banker's almanac. J. Smith Homans. New York.

Gibbons, J.S. 1858. The banks of New-York, their dealers, the clearing house, and the panic of 1857. D. Appleton & Co. New York.

Haxby, James A. 1988. Standard catalog of United States obsolete bank notes 1782-1866. Krause Publications. Iola, WI.

Johnson, A. B. 1857 (original publication date 1849). A treatise on banking. In The Banker's Common-place Book published at the office of The Banker's Magazine. J. Smith Homans. New York.

Weber, Warren E. 2000. Balance Sheets for U.S. State Banks, 1800-1860. Research Department. Federal Reserve Bank of Minneapolis. http://research.mpls.frb.fed.us/research/economists/wewproj.html

Table 1
Statistics for all United States state banks, selected years

Item	1840	1845	1851	1856
	millions of dollars			
Notes of other banks	22.7	12.0	17.2	24.8
Due from other banks	48.6	29.6	50.7	62.6
Due to other banks	45.9	26.3	46.4	52.7
	percent			
Notes held/circulation	19.47	13.39	11.08	12.67
Due froms/total assets	7.14	6.82	8.49	7.11
Due tos/total liabilities	14.48	11.54	12.56	9.83
	millions of dollars			
Total assets	680.5	433.9	597.2	880.0
Capital	363.6	206.0	227.8	343.9
U.S. nominal GNP	1,360	1,453	2,175	3,272

Table 2
Information on data set and extensiveness of interbank relationships

Item	1851	1852	1853	1854	Year 1855	1856	1857	1858	1859	Over-all
Banks in sample	21	25	26	25	31	36	50	77	79	
Total banks in existence	48	48	49	49	57	57	67	78	81	
Relationships per bank										
Average	11.7	13.6	14.3	13.3	13.7	14.1	14.0	12.4	13.6	13.4
Median	11	12	12	11	11	11.5	12.5	11	11	11
Low	3	3	3	2	2	4	1	2	1	1
High	29	37	36	44	49	42	50	41	53	53
Number of related banks	119	149	158	154	184	227	289	321	333	542
Pennsylvania	50	49	51	55	61	77	86	102	113	144
Non-Pennsylvania	69	100	107	99	123	150	203	219	220	398
Total number of states	18	15	19	19	21	23	27	24	25	28

Table 3
Due froms of Pennsylvania country banks

Location	1851	1852	1853	1854	1855	1856	1857	1858	1859
	percentage of total								
Four financial centers	78.9	87.0	83.5	81.2	79.7	80.3	79.9	81.8	77.3
	average dollar value								
	9,865	20,896	15,505	20,625	14,816	19,466	9,214	10,199	8,764
	percentage of total								
Outside financial centers	21.1	13.0	16.5	18.8	20.3	19.7	20.1	18.2	22.7
PA and nearby states*	18.9	12.6	14.9	18.0	19.3	17.8	19.1	16.5	20.8
Other states	2.3	0.4	1.7	0.8	1.0	2.0	1.0	1.7	1.9
	average dollar value								
	1,413	1,920	2,460	2,743	2,205	2,483	1,690	1,584	1,371
	average number of banks								
	5.2	5.9	5.7	5.7	5.5	6.9	6.3	5.8	6.3

* Pennsylvania, except Philadelphia and Pittsburgh; New Jersey; New York, except New York City

Table 4

Amounts due Pennsylvania country banks from banks in financial centers, percentages

Bank	1851	1852	1853	1854	1855	1856	1857	1858	1859
Allentown Bank						81.7	49.5	80.1	39.7
Anthracite Bank of Tamaqua					94.1	90.4	65.3	83.6	90.5
Bank of Beaver County								100.0	100.0
Bank of Catasauqua							40.6	96.5	91.9
Bank of Chambersburg	53.8	98.7	97.1	88.2	94.1	90.0	93.3	84.8	75.8
Bank of Chester County								82.3	59.3
Bank of Chester Valley							48.1	90.6	90.5
Bank of Crawford County								49.4	36.4
Bank of Danville	88.8	95.6	85.7	92.6	62.1	87.0	87.5	78.0	68.1
Bank of Delaware County	98.7	99.1	99.8	88.7	100.0	100.0	100.0	96.0	91.4
Bank of Fayette County								73.1	91.0
Bank of Germantown	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Bank of Gettysburg						70.3	88.8	96.7	81.1
Bank of New Castle/ Lawrence County					79.2			58.5	63.4
Bank of Middletown								19.2	33.0
Bank of Montgomery County	84.1	100.0	68.1	80.1	97.4	88.7	89.1	98.3	92.2
Bank of Northumberland						88.1	82.3	68.4	78.0
Bank of Pottstown							99.6	93.5	83.2
Columbia Bank (& Bridge Company)	79.5							96.5	94.2
Doylestown Bank of Bucks County							42.9	81.3	63.3
Easton Bank		14.4	95.7	81.8	63.5	54.1	83.7	81.9	57.6
Erie City Bank/ Bank of Commerce			86.8	93.1	68.2	45.4		72.8	73.4
Farmers' & Drovers' Bank of Waynesburg	8.7							70.5	77.9
Farmers' & Mechanics' Bank of Easton		84.5	81.0	90.1	80.4	26.8	63.1	63.6	37.7
Farmers' Bank of Bucks County	44.3	86.0	88.5	83.1	71.4	95.9	95.8	99.2	83.7
Farmers' Bank of Lancaster		79.7	90.5	90.4	94.2	70.7	93.2	87.7	94.1
Farmers' Bank of Reading								69.6	55.8
Farmers' Bank of Schuylkill County								88.9	82.4
Franklin Bank of Washington	71.9	80.4	52.8	72.4	99.8	98.5	82.7	97.9	99.7
Harrisburg Bank		89.0	82.0	65.8	60.4	76.1	86.0	86.1	70.7
Honesdale Bank	99.2	100.0	99.3	100.0	99.6	98.7	100.0	100.0	100.0
Jersey Shore Bank								68.6	26.0
Kittanning Bank							100.0	100.0	100.0
Lancaster Trading Co/ Lancaster Bank	4.3	86.1	94.4						
Lancaster County Bank	39.0	47.4	91.8	87.9	89.2	66.2	86.9	69.8	69.0
Lebanon Bank	45.0	2.4	57.7	68.4				57.9	2.0
Lebanon Valley Bank								62.9	53.0
Lewisburg Bank							27.3	89.4	73.8
Lock Haven Bank					94.2	83.4	88.3	97.2	93.1
Mauch Chunk Bank								77.7	89.0
Miners' Bank of Pottsville	88.6	97.2	97.1	91.8	94.4	95.0	89.2	91.6	65.5
Monongahela Bank of Brownsville	33.8	80.1	75.3	77.6	87.1	87.5	63.1	85.0	85.6
Octoraro Bank								99.3	91.5
Shamokin Bank								70.8	0.0
Stroudsburg Bank							100.0	100.0	98.6
Tioga County Bank							98.1	98.0	100.0
Union Bank of Reading								88.0	20.9
Warren County Bank					94.8	89.0	90.4	83.0	58.4
West Branch Bank								63.0	85.4
Wyoming Bank at Wilkesbarre	94.7	93.1	65.2	85.3	40.4	56.1	75.4	97.9	97.6
York Bank		72.5	28.3	13.2	39.0	62.6	55.0	27.0	26.6
York County Bank							53.1	28.1	3.3

denotes bank in existence

Table 5
Locations and names of major respondents of Pennsylvania country banks

Country Bank	Respondent Bank
Philadelphia	
Allentown Bank	Manufacturers & Mechanics Bank
Anthracite Bank of Tamaqua	Bank of Pennsylvania => City Bank
Bank of Catasauqua	Manufacturers & Mechanics Bank
Bank of Chambersburg	Bank of Pennsylvania => Philadelphia Bank
Bank of Chester County	Philadelphia Bank
Bank of Chester Valley	Philadelphia Bank
Bank of Commerce, Erie*	Girard Bank
Bank of Danville	Girard Bank => Bank of the Northern Liberties
Bank of Delaware County	Bank of North America
Bank of Germantown	Farmers & Mechanics Bank
Bank of Montgomery County	Bank of the Northern Liberties =>Western Bank
Bank of Northumberland	Bank of PA => Bank of the Northern Liberties
Bank of Pottstown	Bank of the Northern Liberties
Columbia Bank (& Bridge Company)	Farmers & Mechanics Bank
Doylestown Bank of Bucks County	Philadelphia Bank
Farmers' Bank of Bucks County	Farmers & Mechanics Bank
Farmers' Bank of Lancaster	Mechanics Bank
Farmers' Bank of Reading	Philadelphia Bank
Farmers' Bank of Schuylkill County	Commercial Bank of Pennsylvania
Farmers & Drovers Bank of Waynesburg	Western Bank of Philadelphia
Farmers' & Mechanics' Bank of Easton	Girard Bank
Franklin Bank of Washington	Bank of North America
Harrisburg Bank	Bank of PA => Farmers & Mechanics Bank
Lancaster Bank	Girard Bank
Lancaster County Bank	various banks
Lebanon Valley Bank	various banks
Lewisburg Bank	Western Bank of Philadelphia
Lock Haven Bank	Bank of Pennsylvania => Philadelphia Bank
Mauch Chunk Bank	Girard Bank
Miners' Bank of Pottsville	Bank of North America
Monongahela Bank of Brownsville	Philadelphia Bank
Octorara Bank	Commonwealth Bank
West Branch Bank	Farmers & Mechanics Bank
New York	
Allentown Bank	Union Bank
Bank of Chambersburg	American Exchange Bank
Bank of Commerce, Erie*	Park Bank
Bank of Crawford County	various banks
Easton Bank	Union Bank
Erie City Bank*	John Thompson, private banker
Farmers' & Mechanics' Bank of Easton	Merchants Exchange Bank
Honesdale Bank	Merchants Exchange Bank
Mauch Chunk Bank	Park Bank
Stroudsburg Bank	Park Bank
Warren County Bank	F.P. James & Co., private banker
Wyoming Bank at Wilkesbarre	Metropolitan Bank => Merchantile Bank
Pittsburgh	
Bank of Beaver County	Merchants & Manufacturers Bank
Bank of Fayette County	Mechanics Bank of Pittsburgh
Franklin Bank of Washington	Bank of Pittsburgh
Kittanning Bank	Bank of Pittsburgh => Merchants & Manufacturers
Monongahela Bank of Brownsville	Bank of Pittsburgh
Baltimore	
Bank of Gettysburg	Merchants Bank => Western Bank, Baltimore
Farmers & Drovers Bank of Waynesburg	Citizens Bank
Bank of Chambersburg	Merchants Bank

Table 6
Due froms of Philadelphia banks

Item	Year								
	1851	1852	1853	1854	1855	1856	1857	1858	1859
	averages								
Number of relationships	20.5	21.8	23.0	23.8	26.0	19.8	21.3	19.5	24.2
Dollar value	3,439	5,264	4,677	3,473	2,924	1,662	2,667	2,636	2,058
	percentage of total								
PA and nearby states*	76.8	77.3	76.1	85.2	80.0	74.6	61.3	64.4	80.7
Philadelphia	38.6	54.5	37.6	37.8	36.8	3.8	22.4	12.1	0.1
Outside Philadelphia	38.2	22.9	38.5	47.4	43.2	70.8	38.9	52.3	80.6
New York City	0.0	0.0	4.5	0.0	0.3	2.1	16.4	11.0	2.0

* Delaware, Maryland, New Jersey, Virginia, and the District of Columbia

Table 7
Due froms of Pittsburgh banks

Location	Year 1851	1852	1853	1854	1855	1856	1857	1858	1859
	percentage of total								
Financial centers	61.6	86.5	60.0	81.8	78.9	68.5	29.6	77.2	48.3
	average dollar value								
	13,904	58,990	27,712	32,173	28,868	21,862	2,445	17,762	3,368
Outside centers	average dollar value								
	2,757	1,471	2,653	2,281	3,654	2,675	1,563	1,197	1,119
	number of banks								
	22.0	27.5	27.5	16.0	11.7	16.7	16.3	13.1	10.7
	percentage of total								
"Western" states*	27.1	9.9	30.9	11.9	18.7	30.3	60.9	10.7	42.7
Other states	11.3	3.7	9.1	6.4	2.3	1.2	9.5	12.1	9.0

*Indiana, Kentucky, Louisiana, Missouri, and Ohio

Figure 1 - Locations of Philadelphia Bank Correspondents

Figure 2 - Locations of New York Bank Correspondents

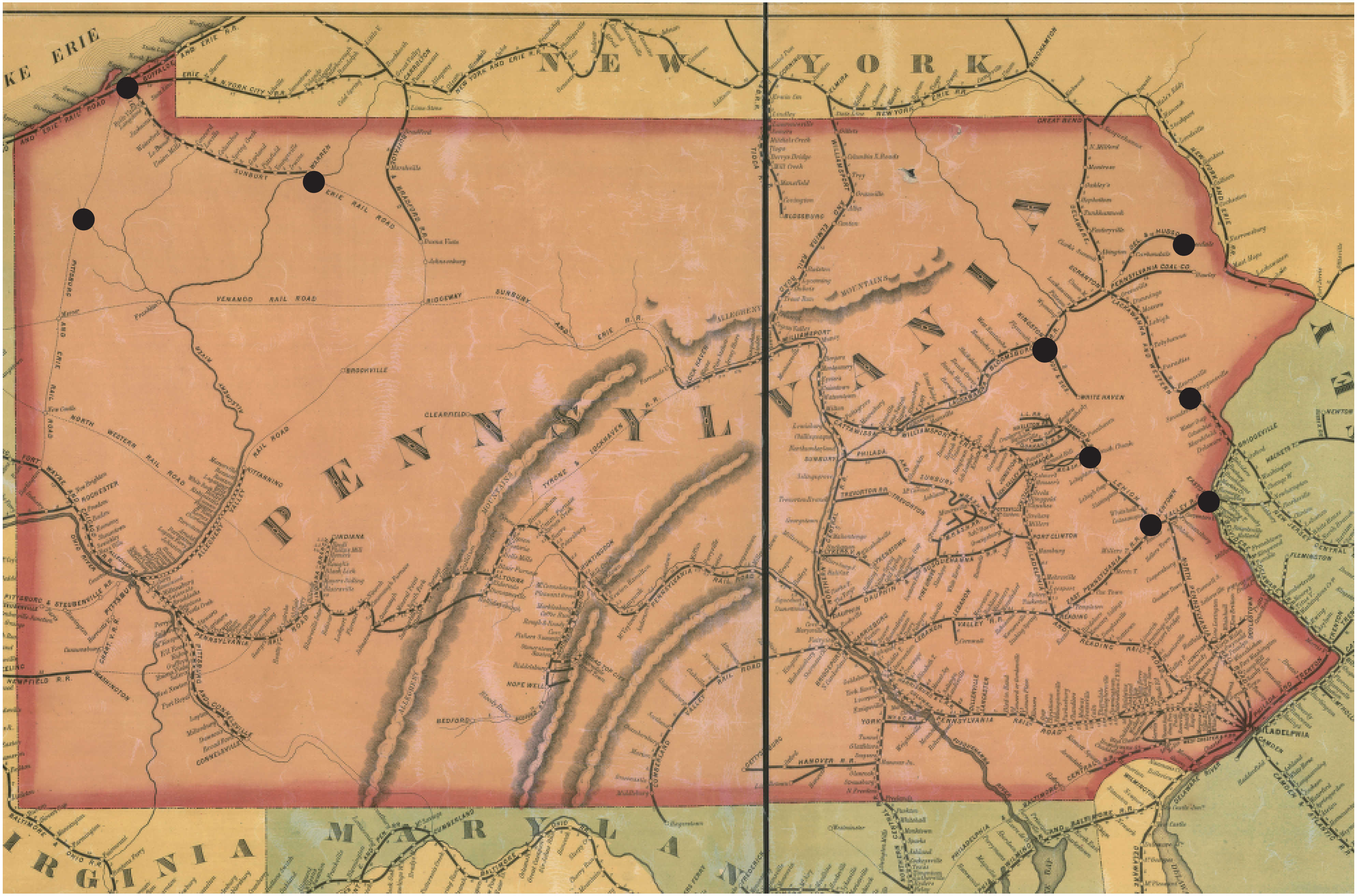

Figure 3 - Locations of Correspondents of Philadelphia Banks in 1859