Session 50: Banking in Latin America, 1870-1940: Structure, Regulation & Crises

"The Great Brazilian Bank Panic of 1900:
liquidity, failure, and consolidation in the São Paulo bank sector"

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São Paulo, Brazil, experienced a period of extraordinary growth and structural change in the late 19th century resulting from the coffee boom, the end of slavery, massive immigration bringing wage earners and consumers to support domestic industry, and government reforms to stimulate domestic economic development. Along the way São Paulo experienced the rapid growth of its banking sector. Three banks expanded to nine by the end of the Empire, and then to more than thirty by the mid 1890s. Moreover, the financial sector had diversified away from one comprised exclusively of commercial banks, lending money in the short term only, to include universal banks that lent money to agriculture and industry, and the formation of a new stock exchange that was central to São Paulo's industrialization push. (Hanley 1995 and 1998)

Many of the initial gains in this domestic economic boom were reversed by a period of profound instability that whip-sawed both agriculture and industry during the 1890s and early 1900s. Initial euphoria of the early 1890s was followed by a period of falling exchange rate, collapsing international prices, and reactive government policies. Finance Minister Joaquim Murtinho (1898-1902) appealed to Brazil's bankers, the Rothschilds, for help. The resulting Funding Loan of 1898 brought relief to a debt payments crisis but imposed as a condition a sharp contraction in the money supply. In addition, Murtinho put in place a series of economic policies intended to strictly curtain the banking sector, to weed out inefficient agricultural producers, and to substantially compress domestic industry. (Pelaez and Suzigan 1976)

One of most dramatic results of these policies was the great Brazilian bank panic of 1900. The panic began in Rio de Janeiro, where eight banks failed in just two months, including the giant Banco da Republica do Brasil, but had its roots earlier in the decade when banks invested in stocks now worthless and lent money to companies now defunct. (Triner 2000) Recession was gaining a foothold by 1898, and the deflation sought by Murtinho gave the weakened banks the final push.

The shock waves from the 1900 panic spread to São Paulo's banking sector in a manner that was more gradual, but institutionally just as devastating. Signs of weakening were apparent as early as 1898, but bank failures didn't begin in earnest until 1901. From 1901 until 1906 failed banks littered the road, each succumbing at its own pace in a painfully drawn out death spiral. When the crisis was over and the dust had cleared, just a handful of domestic commercial banks remained in São Paulo, but foreign banks had survived in disproportionate numbers. As a result the foreign banks captured a large share of the domestic banking business, a share they would not relenquish for twenty years.

This loss of domestic firms was particularly accute because they alone had ventured beyond traditional short term credit into real estate lending and equity investment in non-bank firms. Whereas foreign-owned banks strictly limited their lending to advances and discounts, the universal banks had provided loans to coffee planters and industrialists, the commercial banks in São Paulo's principal cities invested in stocks and bonds of non-bank companies, and the smaller commercial banks situated in regional cities made real estate loans in addition to their traditional short-term credit business. São Paulo in 1906 had a bank sector comprised mostly of foreign banks and entirely of commercial banks in spite of growth and diversification in the region's economy that would have benefitted from longer term credit.

Why did Brazilian banks fail as a result of the panic when foreign banks survived? The answer to this question is not obvious. Institutionally, the sector seemed quite robust. It had grown from seven domestic firms in 1889 to more that thirty by the end of 1892. Many of these banks lived short lives but many others led successful institutional lives and new commercial banks, attracting new investors and depositors, were continually forming. New banks formed even in the recessionary years of 1899 and 1900. (Saes 1986) Investor confidence was fed by the fact that São Paulo's commercial banks were quite profitable throughout the 1890s, even in the recessionary years toward the end of the decade. (Hanley 1995) Banks headquartered in the interior cities of the state were among the most profitable of all, yet many banks founded before 1899 and headquartered in the capital and most banks founded before 1899 in the interior were wiped out.

Contemporary accusations suggested that the foreign banks caused the bank crisis in order to profit from it. (Joslin 1963) Panics do benefit the survivors who find themselves in a strong position to absorb the clientele of the failed banks. Indeed, prominent history of British banking in Brazil concludes that the domestic bank failures had positive consequences for the British banks. (Joslin 1963) Yet foreign bankers denied manipulating the market, pointing instead to conservative banking practices as the reason for their survival.

If foreign bankers were right, and their conservative lending shielded them in a time of crisis, then we can look at lending practices for clues to the vulnerability or resistance of banks to the panic of 1900. The critical feature of banking in a time of crisis is the bank's ability to meet its obligations in a timely manner with a minimum of loss. This ability to turn assets into cash to meet its obligations on short notice is the bank's liquidity, and is expressed as the ratio of advances and discounts to deposits. By calculating the liquidity ratio for São Paulo's banks during the era before, during, and after the crisis, we are able to see which banks were most vulnerable to the panic.

Evidence gathered from the balance sheets of individual bank corporations operating in São Paulo from the 1870s through 1906 shows that Brazilian-owned banks, in fact, tended to be less conservative that foreign banks. They placed a higher percentage of their funds in the market as loans and discounts than did their foreign competitors. Moreover, Brazilian-owned banks placed funds in loans and investments that were less liquid than the traditional short term advances and discounts. When the bank panic hit, the banks with lower liquidity were most vulnerable.

While relatively low liquidity increased vulnerability, it alone does not explain failure as some foreign banks with very low liquidity survived the crisis. For a bank to fail in a panic, it had to have failed to gain access to fresh funds to cover its obligations. This, I argue, made the difference. Foreign banks were part of a larger branch banking network and therefore did have access to such funds. The data presented in this paper clearly show that the foreign banks would have failed without recourse to their network. Brazilian-owned banks, on the other hand, were unit banks. Each bank corporation was a business unto itself with no network to fall back on in time of crisis. Brazilian banks relied on their cash balances to outlast the recession. Only a handful succeeded.

These findings support the literature that demonstrate the value of branch banking to the stability of the banking sector. Branching has been shown provided banks with flexibility to balance risk taking in one market with caution in another. British banking moved toward extensive branching over the course of the 19th century, providing Britain with a stable banking system. The benefits of this system were two-fold. First, branch networks allowed banks to redistribute funds from regions of slow growth to regions of high growth. (Cottrell 1979) Second, the stability of the branch networks shielded British industry from recurrent bank crises of the type suffered in the US because of its unit banks. (Collins 1991) Eugene White cites an inverse relationship between branching and bank failures in the US banking industry in the 1920s. The beneficial effects of branching on bank system stability are further indicated by Canada's experience in which its branch banking system produced a far lower incidence of bank failures than the US's unit banking system. (White 1983) The comparative experience of foreign and domestic banks in São Paulo certainly supports this thesis.

Foreign bankers were partly right in claiming that they were shielded from failure by conservative lending practices. This paper shows that they were far more conservative in their lending than their domestic competitors. But they also benefited from access to a network, without which they could not have survived. Branching provided foreign banks with stability in times of crisis, when the home office infused illiquid banks with funds. The absence of branching rendered domestic banking risky, especially considering the more aggressive lending and investment practices of the domestic banks, causing many to fail. It was this difference that determined survival and failure after 1900.

Because São Paulo's banks were overwhelmingly commercial in nature, and because all of the foreign-owned banks were commercial banks, this paper compares commercial banking operations only and does not include an assessment of universal bank failure. This is largely because their exit from the banking business caught no one by surprise. Universal bank stocks and bonds were significantly discounted on the São Paulo stock exchange and their profits were among the lowest of all domestic banks. One of the three, the Banco de Santos, failed quietly before the panic. A second (Banco de Credito Real) failed spectacularly after the panic as a result of its troubled mortgage business. And the third (Banco União de São Paulo/Votorantim) left banking in 1906 to pursue its successful textile business full time. Therefore, this paper focuses exclusively on the domestic commercial banks that were the direct competitors to the foreign banks.

**Sources and Uses of Bank Funds**

Banks maintain liquidity by balancing their sources of funds with their uses of funds. Throughout the history of banking in nineteenth-century São Paulo, as in modern commercial banking, the sources of the funds that banks gathered in order to make loans and investments and to discount bills were deposit taking, the sale of equity, and the reinvestment of profits. (Figure 1) These sources represented different types of investments in banking, and each source bore characteristics that influenced the relationship of the bank to its clients. The uses of fund, or type of activities in which a bank could engage, were dictated by the sources of funds it had at its disposal. In the end, bankers seek a balance between sources and uses that maximizes the bank's earnings without threatening the survival of the firm.

Prudence required that short term sources of funds be employed only in short term credit applications while longer term sources of funds might safely be employed in longer term applications. As this section will demonstrate, most funds raised by banks were at the short term, and most of their credit creation was short term as well. Some types of banks varied from this rule, however, taking bigger risks by committing themselves to longer term applications. The tolerance of individual banks for more or less liquid applications of their funds would be a primary conditioning factor in their ability to survive the Bank Panic of 1900.

Each source of funds had particular characteristics that shaped its possible uses by the bank. Deposit taking acted as a sort of short-term, indirect investment by individual savers in a banking enterprise; the depositors trusted the bank to use their funds wisely and to have them available for withdrawal at agreed-upon intervals. The sale of equity represented an open-ended direct investment by individuals or companies in the stock of banking enterprises. This type of investment typically required no repayment. It was made in exchange for a share of the company's profits, which the investors trusted the bank to generate through prudent investment of their capital. The reinvestment of profits was a form of self-finance, where the company retained a portion of its earnings to fund future operations, rather than pay the profits out in dividends.

Deposits and equity investment drew from two different pools of investors, and each source had characteristics which influenced the activities in which banks engaged. Deposit accounts drew on the savings of a large number of individuals who received, on average, very modest returns on their money. The depositor specified the term of the deposit, which was payable on demand or payable at the end of a three, six, nine or twelve-month period. The amount of interest earned on these accounts rose with the length of the term, from 3% to 4% on demand and three-month accounts to 8% on twelve-month accounts. The longer-term deposits paid more because they were more valuable to the bank. They guaranteed the bank that it would have a certain level of funding for a fairly long time period, which it could then loan out. The shorter-term deposit accounts earned less because they required the bank to keep more funds idle to meet withdrawal demands. This source of funding, therefore, required banks to limit their credit activities to short-term investments. They needed to be able to quickly liquidate their assets to meet the demands of the depositors.

Equity investment was significantly different from deposit finance, for equity represented an open-ended supply of funds to the bank. In exchange for the open-ended use of their capital, investors received much higher returns than did depositors. Dividend payments by São Paulo banks historically ranged between 8% and 12% on the invested capital. The higher returns paid to shareholders represented the greater use their funds had for the company. Because equity was not repaid, banks were not required to keep any portion of it on hand. Banks, therefore, were free to fully invest the proceeds in operations of any term length they wished. It was, however, a more expensive source of funds than deposits and therefore generally required a higher return on its investment than did the investments made with other peoples' money.

The third source of bank funds, by far the smallest, was retained earnings. While retained earnings have historically been an important source of finance for companies, principally in markets where access to capital was limited such as among Mexican textile manufacturers, it did not act as a true source of finance in nineteenth-century São Paulo. Rather, retained earnings were placed in reserve funds to protect the equity capital against any losses the banks might incur. In the event of a loss, which in the case of banking would be due to defaults on outstanding loans or discounted paper, the reserve funds were to be tapped before the equity capital account would be drawn down.

With the exception of the first full decade of bank operations it was deposits, not equity, that represented the largest single source of total commercial bank funds for Paulista banks in the second half of the nineteenth century. From 1873 to 1905 deposits comprised two-thirds or more of all bank funds. Equity capital provided only twenty percent of bank funds on average during this period, while retained earnings contributed just five percent. (Table 1)

In spite of their meager numbers, the size of retained earnings accounts acted as a bellwether of the economy. From 1890 to 1895, at the height of bank formations, reserves averaged almost 6%, and from 1896 to 1905 retained earnings grew to average over 10% of bank funds. Their growth was due in part to the fact that the bank sector was maturing. Reserve accounts were, after all, cumulative accounts. But the size of these loan loss reserves, particularly after 1895 when the bank sector was no longer expanding, also acted as an indication of the general weakening of the São Paulo economy after 1895. As the coffee sector entered its crisis of overproduction, which coincided with a falling exchange rate and a drop in coffee prices, the whole import/export complex found itself affected. The higher reserve account level indicates that the risk of losses grew as the regional economy weakened and the bank crisis approached. Although the average level of these accounts was 9% for the 1890-1905 period, account balances ranged between 10% and 14% of bank funds after 1896. (Table 1)

The figures presented in Table 1 clearly show that the banking sector on average was primarily funded by deposits. These figures are driven by the financial patterns of the largest banking groups in São Paulo--the city commercial banks and the foreign banks. These banks, the first to be founded in São Paulo, grew through their intimate ties with the export sector and with the influence of growing foreign trade on urban commerce. Because these two types of banks dominated the bank sector, together accounting for more than two-thirds of all commercial bank credit extended in every year of São Paulo's banking history, their profiles determined the aggregate characteristics of the entire sector.

As a result of the expanded business environment of the 1890s, however, some city commercial banks as well as the commercial portfolios of mortgage banks and the regional commercial banks diverged from the aggregate picture. Approximately one-third of the city banks engaged in longer term lending, but the strongest expression of the funding/investment relationship was found in the univeral and regional banks. These banks received a higher proportion of their funding from equity capital. Because equity capital was effectively a permanent loan never to be repaid, it freed up a portion of these banks' funds for use in longer term applications.

Regional commercial banks, which were commercial banks founded in the interior cities of the state of São Paulo, had higher than average levels of funding from equity capital (Table 1) and lower than average levels of investment in advances and discounts than the city commercial banks (Table 2). Unlike the city commercial banks, the regional commercial banks did not engage in direct corporate investment through the stock and bond market, for which their rural clients had little use. Rather, these banks were the only commercial banks to dedicate earning assets to loans backed by real estate, by far the most important form of accommodation their clients could receive.

Longer-term credit was not a product commonly extended to commercial banking clients, because deposit finance meant that commercial banks rarely had the long-term resources to tie up. Real estate loans amounted to between 1% and 2% of earning assets invested in the São

Paulo economy by the entire commercial banking establishment during the 1890s. Only one city commercial bank, the Banco Construtor e Agrícola, allocated any earning assets to loans backed by real property or *hipotecas*.[1] Among regional commercial banks, however, these loans were an important part of their relationships to their clients, averaging over 12% of earning assets. The absolute size of the loans was not large but these mortgage loans represented a significant portion of total credit extended by regional commercial banks. For any individual regional bank, real estate loans represented as much as 14% of its total assets and up to 35% of its earning assets.

The investment by commercial banks in equity and bonds of non-bank companies or in mortgages was the type of banking behavior we might expect to see in an economy that was both growing and diversifying rapidly. Regional banks to a greater degree, and city commercial banks to a lesser degree, accomodated the needs of this changing economy by extending some portion of their available funds in longer term credit. We will see below that while this risk taking may have served the economy's needs in a time of expansion and structural change, it tended to place the individual banks in jeopardy when the recession hit by saddling them with less liquid assets.

**Liquidity**

While the data on sources and uses shows that most banks relied on deposit finance to fund short term lending, it cannot show the extent to which banks operated within their means. To evaluate the relationship between the size of deposit accounts and the volume of lending, or the ability of a bank to afford the level of credit it extended, we need to evaluate the balance between sources and uses of funds, or the liquidity ratio. Liquidity is the ability to convert an asset to cash with minimum delay and minimum loss. (Luckett 1976) The liquidity ratio shows how agressive a bank is in utilizing the funds it has raised from depositors and investors, and gives a sense of how vulnerable that bank might be in the event of a crisis such as a bank panic.

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[1]This bank's intention to provide such loans is spelled out in its statement of objectives published in the Correio Paulistano on July 10, 1890. In addition to traditional commercial banking functions, the Banco Construtor e Agrícola sought to act as contractor for the building of railroads, factories, worker housing, and agricultural immigrant colonies. It is salient that this bank, which also invested significantly in stocks, drew the single greatest proportion of its funding form equity capital of any city bank.

The liquidity ratio, Advances and Discounts:Deposits, expresses the fundamental commercial banking equation. (Figure 2)

A second set of ratios, calculated to express the balance between these uses of funds and all the sources to pay for them, completes the picture of bank liquidity in nineteenth-century São Paulo. Banks received over 70% of their funding from deposits during the nineteenth century, but domestic São Paulo banks did turn to shareholders for equity capital in times of expansion when deposits could not be raised fast enough to fund their growth. This was true when banks were new to the São Paulo economy, in the 1870s, and again when the sector underwent rapid expansion, in the early 1890s. Because of the occasional highlighted importance of equity capital as a source of bank funds, I developed an additional set of liquidity ratios to complement the deposit-based ratios. These ratios, illustrated in Figure 2 and reported in Tables 3 through 5 take into account all sources of funds gathered by the São Paulo banks and all uses to which they were put.

The two sets of ratios explored here behave in the same manner: both express whether the banks raised enough funds to cover the credit they extended and investments they made. The first ratio asks whether deposits alone were adequate to fund the short term credit activities typical of commercial banks, while the second ratio asks whether the additional sources covered the banks' atypical lending. In both cases, a ratio of 100% meant that the sources and uses of bank funds were of equal value. A ratio below 100% indicated that a bank had adopted a conservative lending and investment policy, preferring to keep outstanding credit at levels below total available funds to insure its ability to meet its obligations. A ratio above 100% meant that a bank was lending or investing more money than it was bringing in from depositors and investors, which signaled one of two possibilities. The first possibility was that the bank was a branch of a larger network that used funds from regions of slower growth or lower profitability to apply in areas of faster growth or greater profitability. The second possibility was that the bank was unable to raise the necessary funds locally to finance that credit levels demanded by its customers. Such a bank would go to another market to rediscount some of the paper they held, in effect going into debt in order to accommodate its clients.

While there is no one "right" liquidity ratio, because the need for liquidity varied by bank and has changed over time, we can look to the world's nineteenth-century bankers--the British--to get a sense of what ratio was considered prudent at that time. Banking historian Philip Cottrell found that London banks at the end of the nineteenth century "preferred to maintain ratios of advances to deposits below 55%, and their managements became alarmed if the ratio rose and remained above 60% for any appreciable time."[2] David Joslin's history of British banking in South America echoes this sentiment, as reams of communications between home offices and overseas branches cautioned against anything but the self-liquidating loan. (Joslin 1963)

All banks operating in São Paulo had liquidity ratios that far exceeded the preferred London ratio of 55%, but the foreign-owned banks were the most conservative, the commercial banks headquartered in the capital city of São Paulo somewhat less so, while the regional commercial banks were the least conservative as a group. Regional commercial banks were founded after 1890 in response to important regulatory changes accompanying the change in political regime in late 1889. These newer banks operated more aggressively than did the older banking groups as a whole. If we look at the three distinct groups on a decade by decade basis, the trends in liquidity are clear.

*1870s and 1880s: City Commercial and Foreign Banks*

The coffee boom that began in the 1870s stimulated São Paulo's bank sector to expand from just three banks (two domestic, one foreign) located in the principal cities of São Paulo and Santos to nine banks in those two cities (six domestic, three foreign) Looking at the basic liquidity ratio of advances and discounts to deposits, we see that São Paulo's banks in the early decades operated at ratios well above 100% and financed this imbalance either through funds from affiliated banks or by going into debt themselves. (Table 3) The balance sheets for São

[2]Cottrell (1979) p. 204.

Paulo's two domestic banks show that they were financially dependent on Rio banks in the 1870s. The one foreign bank, too, extended far more credit that its deposits could support.

By the 1880s, however, few banks listed rediscounted paper among their liabilities, and newly forming banks tended to attract enough deposits and equity to comfortably cover their credit activities. By 1887 foreign banks easily financed their credit out of deposits, as seen in liquidity ratios below 100%. City commercial banks as a group did not, but they saw their liquidity improving over the course of the 1880s. Their cumulative ratio of advances and discounts to deposits trended downward from a high of 195% in 1883 to a low of 69% in 1889, and while this cumulative ratio includes considerable variation in individual ratios, every bank improved its ratio over the course of the decade.

*The 1890s: City Commercial, Regional Commercial, and Foreign Banks*

An economic boom associated with the shift from Empire to Republic, when a pro-business regime reformed banking and introduced the limited liability joint-stock company, stimulated a huge expansion of the São Paulo bank sector. The newly formed regional commercial banks joined city commercial and foreign banks in taking deposits and making loans. As we saw earlier, they relied more heavily on equity finance than the city and foreign banks, and they tended to make mortgage loans.

This different profile of sources and uses had an important effect on the liquidity ratios of the regional banks. Most of the city commercial banks and all the foreign banks in the were able to fund the most basic credit services, which were advances and discounts, through deposits alone. (Table 3) The regional banks, however, had much higher ratios indicating much lower liquidity. Their basic ratio of advances and discounts to deposits was higher, sometimes far higher, than that of city and foreign banks, and while these aggregate ratios mask institutional variations, there is no single bank driving these much higher rates. As Table 4 shows, several of the five regional banks consistently maintained among the highest ratios of short term loans to deposits of all banks, indicating that their relative liquidity was relatively low. In a pinch, we would expect them to find it more difficult to liquidate their assets to meet their obligations.

Of course domestic banks did not restrict their credit to advances and discounts. As we saw earlier, many banks invested in equity and bonds, and some banks dedicated a substantial portion of their funds to real estate loans. While almost none of the domestic banks raised enough money through deposits alone to fund these additional investments, all of these banks were more than fully covered when equity capital and reserves were considered. (Table 5) In fact, the differences between city and regional banks expressed in the basic liquidity ratio in Table 4 go away when we consider all sources and all uses of funds. A ranking would show the two groups randomly interspersed, highlighting the tendency of regional banks to rely more on equity funding relative to the city banks which were largely funded by deposits.

While deposit funding carried the risk that all depositors might demand their money back at the same time, forcing a bank to liquidate its assets, equity funding carried the risk that the bank might find itself dismantled in the case of of run. Then as now, shareholders stood ahead of depositors in line to recuperate their investment in the case of failure. Newpaper accounts after the turn of the century reported on the progress of shareholder consortia in pulling their investment out of failed banks. It was less risky, then as now, for a bank to lend other people's money than to lend owner's capital. While the banks managed loans and deposits for liquidity, that is their ability to meet depositor demands, investing equity placed a bank's capital at risk and therefore risked a bank's solvency.

The greater reliance on equity and reserves by regional banks for their sources of funds indicates that regional commercial banks adopted credit profiles that were less conservative than either city or foreign banks. This pattern is not surprising when we consider that these banks were usually the only bank in the biggest city in their respective region of the state. All of these regions were agricultural districts, and all of the cities and towns were undergoing rapid growth in population and physical structure. The pressures by clientele on these banks to move beyond the self-liquidating loan must have been intense. The financial statements of these banks suggests that they obliged these demands, and profited from it. Regional commercial banks were the single most profitable group of domestic banks in the 1890s. (Hanley 1995) The liquidity ratios presented in Tables 3, 4 and 5, however, show how precarious their position was. In the event of a crisis, these less liquid assets could--and in some cases did--hamstring the regional banks. This most profitable group of banks would suffer the greatest retraction as a result of the bank crisis.

*The 1900s: City Commercial, Regional Commercial, and Foreign Banks*

The liquidity ratios for first decade of the twentieth century, the decade following the bank panic of 1900, do not show clear results in the aggregate for the two categories of domestic banks, but show a dramatic trend of decreasing liquidity for the foreign banks. (Tables 3 and 5) Turning to the domestic banks first, the data show that while the ratios were higher in 1902 than in the year or two preceeding the crisis, they were still within historic bands. Only one of the banks, the regional bank Banco União de São Carlos, appeared to be in trouble. It had a simple liquidity ratio of more than 200% and a *total* ratio of all uses to all sources of more than 100% in the years 1898-1900. This unsustainable position brought it down by 1903.

While the data do not tell a clear story for the domestic banks, they demonstrate a pronounced pattern of rising illiquidity among the foreign banks. Foreign banks had almost always been comfortably funded through local deposits alone from the mid 1880s-on. It was rare that their liquidity ratios topped 85%, yet in 1898 and 1899 two of the four foreign banks found themselves in that position. By 1900 three of the four had lost self-sufficiency, which they failed to regain until 1906. Only the London and Brazilian bank, which had long been the most consistently conservative bank in its lending to deposit ratio, did not experience illiquidity. The loan to deposit ratio for the British Bank, by contrast, doubled to 220% from 1900 to 1901 and were an astounding 350%s in 1904. The Banque Française du Brésil, which found its liquidity ratio above 300% for three years running, 1900-1902, failed. It was the only foreign bank to do so.

These climbing ratios were driven by contracting deposits. In 1898, every bank for which I have two years' consecutive data suffered a decline in the value of their deposits, including all four foreign banks. (Table 6) In 1899 deposits rebounded, but in 1900 they were down across the sector. In fact, three of the four foreign banks suffered significant declines in deposits from 1899 to 1900, and all four foreign banks suffered declines in 1901 and 1902 as well. All told, deposits in foreign banks fell 32% from 1899 to 1904, most of the decline taking place by 1901.

Foreign banks immediately compensated for the drop in deposits by restricting short term credit. (Table 6) Three of the four foreign banks reduced the volume of advances and discounts in either 1898 or 1899, three contracted credit in both 1900 and 1901, and two contracted credit again in 1902. Not surprisingly, the Banque Française du Brésil, whose liquidity ratio topped 300% in 1901 and 1902, contracted its credit the most. Even with year-to year reductions in lending, however, it was not able to balance its sources and uses. Its deposits had fallen from two million mil-reis in 1898 to under 400,000 mil-reis in 1901. The 40% contraction in short term credit was not enough to counter the more precipitous drop in deposits.

In addition to restricting credit, foreign banks quickly moved to increase cash balances. To the extent they could, these banks stocked up on cash in 1899 and 1900. Cash accounts at the foreign banks rose from seventeen to twenty million mil-reis in this period, only to be slashed in half by 1904. Cash evaporated at the Banque Française du Brésil and fell by roughly half at the London and Brazilian bank and the Brasilianische Bank für Deutschland. All told, the foreign banks as a group lost 40% of their cash. (Table 6)

While the surviving banks recovered from their dramatic imbalance, their liquidity ratios remained far higher than their pre-crisis ranges. Such imbalance, far beyond the traditionally conservative practices of British bankers, could only have been sustained with assistance from outside. At the first sign of trouble, signalled by a rising liquidity ratio, home offices (*caixa matriz*) infused their branches with cash. The British Bank, in business since 1892, had never listed home office funds among its liabilities, but in 1900 it received a onetime infusion of cash worth five million mil-reis. These funds, a sum greater than the bank's total deposits, remained on its books throughout the crisis.

The Brasilianische Bank für Deutschland, likewise, received an infusion of funds when its liquidity ratio worsened from 83% in 1897 to 117% in 1898. The São Paulo branch, which had always listed home office funding on its balance sheet, got an immediate 30% increase in its funds from the home office in 1898, an additional 71% increase in 1999, and another 5% increase in 1900. The funds lent to the São Paulo branch by the network more than doubled from eight million mil-reis in 1897 to twenty million mil-reis in 1901 and were worth roughly two times the value of the bank's deposits.

The Banque Française du Brésil, the only foreign bank to fail, is the exception that proves the rule. This poor bank watched its deposits and cash balances evaporate and it contracted its credit by 40% to compensate, but could not keep up with the hemorrhaging. The home office signalled its unwillingness to commit the funds to the São Paulo branch early on. It committed between six million and eight million mil-reis to the branch in its first three years in business, 1897-1899, but when mild illiquidity (127% in 1898) turned to alarming illiquidity (204% in 1899, 340% in 1900) it pulled the plug. Funds from the home office fell to just three million in 1901, and were non-existent in 1902, the bank's last year in São Paulo.

While the foreign banks were beaten up in the years immediately following the Rio de Janeiro panic, São Paulo's domestically-owned commercial banks did not immediately falter. In fact, deposits grew for most domestic banks in both the capital city and interior cities. Deposits with city banks grew about 14% between 1898 and 1902, while total short term credit extended by the city commercial banks grew by almost 6%. These figures would be even higher if we took into account the new commercial bank that formed in 1900, the Banco Comerciale Italiano de São Paulo, right in the midst of the crisis. The city commercial banks would suffer their big contraction in short term credit, about 20% between 1902 and 1904, as the result of the failures of the Banco Mercantil de Santos and the Banco Construtor e Agricola. During this period, two of the three surviving commercial banks tightened their belts by reducing the volume of short term lending and slashing investment in stocks and bonds.

Regional banks followed a nearly identical pattern. Two new regional commercial banks formed in 1899, attracting the equity and deposits to survive the recession. Even controlling for these two new additions, deposits in regional banks grew by 30% from 1898 to 1901. This increase in sources of funds financed a 20% growth in short term loans. Much of this growth, took place in the one regional bank founded before 1899 that survived the crisis.

In spite of clear recessionary conditions, which would make liquidity a prized goal, two regional banks increased their mortgage loans in this period. One of them, the small Banco de Ribeirao Preto, had a comfortable enough liquidity ratio and a small enough volume of mortgage lending that its increase in longer term commitments does not appear alarming, but the other far larger bank, the Banco União de São Carlos, appears positively suicidal. The Banco União de São Carlos had more than doubled the value of its mortgage loans between 1898 and 1899, after the announcement of the terms of the Funding Loan that signalled a general economy-wide contraction of liquidity, and those loans sat on its books in full in 1901. This is the bank whose liquidity ratio for *all* sources of funds exceeded 100% and which failed by 1903.

**Liquidity and Failure**

While individual domestic banks like the Banco União de São Carlos found themselves in a predicament during the crisis, the data show that the impact of the crisis on the foreign banks as a group was far worse than it was for domestic banks. Foreign banks' decline in deposits had been steeper, their contraction of credit more profound, their cash accounts looted, and yet they survived. Domestic banks, in contrast, were eviscerated. One bank failed in 1902, three banks failed in 1903, another three failed in 1904. By the end of the period under study, just three regional banks out of seven founded between 1890 and 1899 survived. Just one of the original city banks founded between 1856 and 1889 remained. Just two additional city banks, out of the dozens that had formed after 1890, survived.

Most banks, as we have seen, had adequate sources to cover their obligations. With the exception of the crisis years, the foreign bankers chose to keep their credit instruments at levels far below their deposits to ensure their liquidity in what they perceived as an unstable economic environment. The domestic banks raised adequate sources through deposits and equity to afford their applications as well, but domestic banks engaged in lending and investment practices that put them at higher risk for illiquidity in a time of crisis. City commercial banks invested funds in stocks and bonds of non-bank companies, while regional commercial banks made mortgage loans. These applications were by nature less liquid. If a client defaulted on a mortgage loan, for example, the bank was left with the property that secured it. In recessionary times, the ability of the bank to liquidate that asset would most likely be poor. Similarly, banks that held stocks and bonds in non-bank companies could sell on the market, but the very fact that the bank needed to liquidate the assets would cause their value to become discounted.

This increased risk faced by the domestic banks' investment practices could be meliorated by maintaining conservative cash balances. A look at cash account balances shows that the banks that survived historically maintained a conservative ratio of cash to deposits. A comparison of group trends shows that regional commercial banks had the lowest cash to deposit ratios of the three groups, while city commercial and foreign banks were both significantly more conservative. (Table 7) The group with the least liquidity, then, also had the smallest cushion when the crisis hit. The only time regional banks' cash reserves approached the levels of the other two groups was in 1903, after the regional banking group suffered its major failures. The single survivor from the 1890s and the two new regional banks, most likely in response to the fate of the failed banks, adopted a more conservative approach in cash management.

The crisis showed domestic bankers that they had to balance less liquid applications like real estate loans and stock and bond investments with high cash reserves to serves as a buffer in tough times. The Brazilian bankers took more risks than the foreign banks did from the 1870s to the 1890s, as they responded to the various credit needs of the rapidly growing and diversifying economy. These risks were warranted by the economic scenario of the times, but were exacerbated by the unit banking structure of the São Paulo banking system. When the economy retracted, many banks were caught short on cash with illiquid assets on their books.

The foreign banks did not, on their own, fare much better than the domestic banks did simply by taking a more conservative tack in the 1890s. The idea that conservative banking saved the day and captured accounts for the foreign banks simply does not hold up to scrutiny.

Just one of the four foreign banks, the London and Brazilian Bank, could have made it on its own merits. The others survived by virtue of receiving back up from the home office.

**Consolidation**

The long run outcome of the great bank panic of 1900 was consolidation in the São Paulo banking sector: consolidation of domestic banking into a few banks, and consolidation of market share in the hands of foreign banks. While dozens of city commercial banks had formed in the early 1890s, just three city banks survived the contraction. One of these survivors, the Banco do Comercio e Industria de São Paulo (BCISP) was already among the biggest banks in the 1890s but became positively huge after the bank crisis had passed. Its equity had accounted for between one-fifth and one-fourth of city bank equity before the crisis, but alone grew to more than one-third of bank equity during the crisis. That is to say that in the deepest year of the crisis, 1901, and before any of the bank failures took place, this bank had gone to the market and doubled its capitalization. The bank failures just enhanced its dominant position.

The size of the BCISP, and the fact of its survival, ensured that it would capture the lion's share of the São Paulo banking business. In 1904, four out of every five mil-reis deposited in a city bank and one out of every two mil-reis deposited in *any* bank was in the BCISP. These resources gave it incredible leverage over credit in São Paulo. Amost 40% of short term credit originated with the BCISP. The next largest domestic bank in the state, the Banco de São Paulo, capitalized at five million mil-reis to the BCISP's ten million mil-reis, took in just 12% of all deposits and made extended about 15% of all short term credit. Even though two additional, large banks formed in São Paulo in the intervening years, the BCISP would remain dominant among domestic-owned banks until 1920 when it still took in one-half of all deposits in domestic banks and made one third of all loans originating in domestic banks. (Saes 1986; Saes and Szmrecsányi 1995)

The most famous consolidation story of the post-crisis era is the foreign banking story. While foreign banks had been among the first banks to set up shop in São Paulo, it was the domestic owned banks that came to predominate during the coffee boom of the 1880s and 1890s.

And while there was a fair degree of instability and turnover among individual domestic banks, new banks formed to take their place. Domestic firms held three quarters of deposits and made three quarters of all loans up to the turn of the century. This dominance ended with the great bank crisis. In 1910, foreign banks had captured half of the banking business in São Paulo. This dominance would continue such that by 1920 foreign banks took almost three-fourths of all deposits and made nearly 60% of all loans. (Saes 1986; Saes and Szmrecsányi 1995)

This great increase in market share has been attributed directly to the bank panic of 1900. The story, told by Joslin, is that British banks mopped up deposit accounts and took over accomodation during bank crises. In relating the accomplishments of the London and Brazilian Bank's stellar manager he writes: "[the bank manager, P.J. de Souza] saw the [São Paulo city] branch through the critical years after 1892, and when a major run began on all the banks in the city in February 1897 he helped other banks and merchant houses to weather the crisis...During the crisis in October 1900 it again acted as sheet anchor for other banks. On both occasions the branch gained fresh accounts, and the demand for its drafts became even more widespread."[3] The image suggests that the newly acquired market share by foreign banks was a direct result of the bank panic.

Foreign banks, though, were squeezed far more than the literature would have us believe. The data presented earlier shows that foreign banks were under seige. Even the most stable of them all, the London and Brazilian Bank, suffered with the crisis. While the balance sheets for the London and Brazilian Bank show growth in deposits and short term credit after 1896 just as Joslin says, it is not true that the bank generously absorbed its competitors' accounts and clients as they rushed to shut their doors. As we saw earlier, domestic banks actually increased both their deposits and their short term loans in the years immediately following the panic. The London and Brazilian's balance sheets, on the other hand, show it suffered an 8% contraction in its deposits from 1900 to 1901 and lost another 20% by 1902. Its short term lending and its cash

[3]Joslin (1963) pp. 165-166.

account both contracted as a result. It weathered the storm thanks to its historically very conservative liquidity ratio and an equally conservative ratio of cash to deposits, not because it offered safe harbor to the clients of failing banks.

**Conclusions**

Liquidity ratios can show which banks or groups of banks were more vulnerable to banking crises. A conservative ratio meant that your bank would probably survive a run, because as the manager you decided to risk less of your depositor's money. A higher ratio, at or above 100% of your deposits meant you were counting to some degree on equity and reserves to cover your obligations. A ratio at or above 100% of your combined sources of funds indicated that the bank had far overextended itself and was at great risk of failure. The three domestic banks whose lending and investments did exceed the sum of all sources did in fact fail.[4] In fact, while many banks operated with simple liquidity ratios above 100%, no bank that operated with a total ratio above 80% for any extended period of time survived.

The only exceptions to these rules were the foreign banks. In spite of years spent seriously out of balance, only one bank failed. Rather, the foreign banks weathered the crisis and as a reward for their survival ended up with an enlarged share of the São Paulo market. That the foreign banks were entirely dependent on deposits for their funding meant they survived thanks to their positions in a branch network. Funds from other branches in South America or from the home office itself was what kept the foreign banks from going under. If they had no recourse to their branches, they would have failed as certainly as their Brazilian competitors.

[4]These were the Banco da Lavoura, in operation from 1886 to 1891; the Banco Construtor e Agricola, in operation from 1890 to 1903, and the Banco Uniao de Sao Carlos, in operation from 1891 to 1903. The first two were city banks, and the third was a regional bank.

Sources

*A Província de São Paulo*

BOVESPA, *Uma História Centenária/A Centennial History*. São Paulo, 1990.

Brazil. *Annaes da Câmara dos Deputados*, August through October, 1899.

Brazil. *Coleção de Leis e Decretos*, 1849-1906.

Brazil. Ministério do Trabalho, Indústria e Comércio. *Sociedades mercantis autorizadas a funcionar no Brasil (1808-1946)*. Rio de Janeiro, 1947.

Cameron, Rondo. "The Banker as Entrepreneur" in *Explorations in Economic History (Second Series)*, Vol. 1, No. 1 (1963).

Cameron, Rondo. *Banking in the Early Stages of Industrialization: A Study in Comparative Economic History*. New York: Oxford University Press, 1967.

------ *Banking and Economic Development: Some Lessons of History*. New York: Oxford University Press, 1972.

Cameron, Rondo and V. I. Bovykin, editors. *International Banking, 1870-1914*. New York: Oxford University Press, 1991.

Castro, Ana Célia. *As empresas estrangeiras no Brasil, 1860-1913*. Rio de Janeiro: Zahar Editores, 1978.

Collins, Michael. *Banks and industrial finance in Britain, 1800-1939*. New York: Cambridge University Press and the Economic History Society, 1991.

*Correio Paulistano*

Cottrell, P. L. *Industrial Finance, 1840-1914: The finance and organization of the English manufacturing industy*. London: Methuen & Co., 1979.

*Diário Oficial do Estado de São Paulo*

*Diário Popular*

Dunbar, Charles F. *The Theory and History of Banking*. New York: G.P. Putnam's Sons, 1922.

Gremaud, Amaury Patrick, Flavio Azevedo Marques de Saes, and Rudinei Toneto Junior. *Formação Econômica do Brasil*. São Paulo: Editora Atlas, 1997.

Hanley, Anne G. "Business Finance and the São Paulo Bolsa, 1886-1917" in *Latin America and the World Economy Since 1800* edited by John H. Coatsworth and Alan M. Taylor. Cambridge, MA: Harvard University Press, 1998.

------ "Capital Markets in the Coffee Economy: Financial Institutions and Economic Change in São Paulo, Brazil, 1850-1905." Ph.D. diss., Stanford University, 1995.

Joslin, David. *A Century of Banking in Latin America*. London: Oxford University Press, 1963.

Luckett, Dudley G . *Money and Banking*. New York: McGraw-Hill, 1976.

*O Estado de São Paulo*, 1890-1917.

Pelaez, Carlos Manuel and Wilson Suzigan. *História monetária do Brasil: análise da política, comportamento e instituições monetárias.* Rio de Janeiro: IPEA/INPES, 1976.

*Retrospecto Commercial do Journal do Commércio*. Rio de Janeiro, 1874-1906.

Saes, Flávio Azevedo Marques de. *Crédito e bancos no desenvolvimento da economia paulista: 1850-1930.* São Paulo: Instituto de Pesquisas Econômicas, 1986.

São Paulo. Arquivo do Estado, Seção de Manuscritos. "Bancos" and "Obras Publicas."

São Paulo. *Relatório apresentado ao Presidente da República de São Paulo pela Comissão Central de Estatística* São Paulo: Leroy King Bookwalter, 1888.

Topik, Steven. "Capital Estrangeiro e o Estado no Sistema Bancario Brasileira, 1889-1930" *Revista Brasileira de Mercado de Capitais* 5, no. 15 (1979).

------ *The Political Economy of the Brazilian State, 1889-1930*. Institute of Latin American Studies, Monograph No. 71. Austin: University of Texas Press, 1987.

------ "State and Economy: Brazil Under the Empire and the Republic." Institute for Latin American Studies, University of Texas at Austin. Technical Papers Series, no. 47 (1985)

------ "The State's Contribution to the Development of Brazil's Internal Economy, 1850-1930" in *Hispanic American Historical Review*, Vol. 65, No. 2 (1985).

Triner, Gail D. *Banking and Economic Development: Brazil, 1889-1930* New York: Palgrave, 2000.

Villela, Anibal Villanova and Wilson Suzigan. *Política do governo e crescimento da economia brasileira, 1889-1945*. Rio de Janeiro: IPEA, 1973.

White, Eugene Nelson. *The Regulation and Reform of the American Banking System, 1900-1929*. Princeton: Princeton University Press, 1983.

Figure 1
The Balance Sheet
(sources of bank funds in bold)

| ASSETS | LIABILITIES |
|---|---|
| Cash | **Equity Capital** |
| Stocks and Bonds | **Reserve Funds** |
| Guaranteed Lines of Credit | **Deposits** |
| Discounts and Other Acceptances | Payables |
| Correspondent Bank Accounts (Creditor) | Correspondent Bank Accounts (Debtor) |
| Property | Payables such as Dividends and Interest |
| Clearinghouse Assets | Clearinghouse Liabilities |

Figure 2
Liquidity Ratios

| Type of Ratio by Bank Group | Numerator (Uses of Funds) | Denominator (Sources) |
|---|---|---|
| **Basic Liquidity Ratio:** | | |
| All banks | Advances and Discounts | Deposits |
| **Ratio of All Uses to All Sources:** | | |
| City Commercial | Advances, Discounts, Stocks and Bonds | Deposits, Equity, Reserves |
| Universal Commercial | Advances, Discounts, Mortgage Loans, Stocks and Bonds | Deposits, Equity, Reserves |
| Regional Commercial | Advances, Discounts, Mortgage Loans | Deposits, Equity, Reserves |
| Foreign | Advances and Discounts | Deposits |

Table 1
Sources of Bank Funds, 1873-1905
Domestic and Foreign Banks, Percent

| | | **1873-1881** | **1882-1889** | **1890-1895** | **1896-1905** | **1882-1905** |
|---|---|---|---|---|---|---|
| City Commercial | Deposits | 74.3 | 73.5 | 65.1 | 67.4 | 67.2 |
| | Equity Capital | 25.1 | 23.5 | 28.8 | 19.1 | 22.7 |
| | Reserves | 0.6 | 3.0 | 6.1 | 13.5 | 10.1 |
| Regional Commercial | Deposits | --- | --- | 44.5 | 49.3 | 47.6 |
| | Equity Capital | --- | --- | 52.1 | 39.7 | 44.1 |
| | Reserves | --- | --- | 3.4 | 11.0 | 8.3 |
| Foreign | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| All Banks | Deposits | 77.1 | 81.2 | 72.0 | 74.6 | 72.7 |
| | Equity Capital | 22.3 | 16.7 | 23.9 | 15.5 | 19.4 |
| | Reserves | 0.5 | 2.1 | 4.1 | 9.9 | 7.9 |

Note: The brief upsurge in the value of equity capital represents the rash of new company formations during the period known as the Encilhamento.
Averages for the Regional banks are 1891-1895, 1896-1901, and 1891-1901.

Source: Bank Balance Sheets: Arquivo do Estado de São Paulo, Manuscripts, various dates; *Correio Paulistano*, *Diario Popular*, and *O Estado de São Paulo*, various dates.

Table 2
Uses of Bank Funds 1873-1905
Domestic and Foreign Banks, Percent

| | 1873-1881 | 1882-1889 | 1890-1895 | 1896-1905 | 1873-1905 |
|---|---|---|---|---|---|
| **City Commercial** | | | | | |
| Advances and Discounts | 97.0 | 92.0 | 86.9 | 91.3 | 89.7 |
| Stocks and Bonds | 3.0 | 8.0 | 10.2 | 8.3 | 9.0 |
| Real Estate Loans | --- | --- | 2.9 | 0.4 | 1.3 |
| **Regional Commercial** | | | | | |
| Advances and Discounts | --- | --- | 92.5 | 84.9 | 87.1 |
| Real Estate Loans | --- | --- | 7.5 | 15.1 | 12.9 |
| **Foreign Banks** | | | | | |
| Advances and Discounts | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| **Total Sector** | | | | | |
| Advances and Discounts | 97.5 | 94.5 | 87.9 | 93.2 | 91.9 |
| Stocks and Bonds | 2.5 | 5.5 | 9.0 | 4.6 | 5.8 |
| Real Estate Loans | --- | --- | 3.1 | 2.2 | 2.3 |

Notes: The real estate loans, listed as "hipotecas" on the balance sheet, were loans secured by both urban and rural real property. Foreign banks absolutely prohibited loans secured by real property, for fear of being stuck with an illiquid asset in the case of a downturn.
Averages for the Regional banks are 1891-1895, 1896-1901, and 1891-1901.

Source: Bank Balance Sheets: Arquivo do Estado de São Paulo, Manuscripts, various dates; *Correio Paulistano*, *Diario Popular*, and *O Estado de São Paulo*, various dates.

Table 3
Bank Liquidity Ratios after 1890
(Advances and Discounts to Deposits, percent)

| | **1892** | **1895** | **1898** | **1901** | **1903** | **1906** |
|---|---|---|---|---|---|---|
| **City Commercial Banks** | 117.7 | 102.5 | 86.5 | 68.1 | 83.6 | 107.7 |
| **Regional Commercial Banks** | 193.7 | 167.7 | 196.5 | 171.2 | 80.5 | 87.3 |
| **Foreign Banks** | 69.9 | 66.2 | 89.0 | 99.8 | 106.9 | 87.4 |
| **All São Paulo Banks** | 114.3 | 96.4 | 89.2 | 80.4 | 92.7 | 98.3 |

Source: Bank Balance Sheets from *Correio Paulistano, Diário Popular,* and *O Estado de São Paulo*, various years.

Table 4
Advances and Discounts to Deposits

| **1893** | | **1895** | | **1897** | |
|---|---|---|---|---|---|
| **Bco de Piracicaba** | 3.0 | Bco Construtor e Agricola | 7.6 | **Bco de Piracicaba** | 3.2 |
| **Bco União de S.Carlos** | 2.8 | **Bco União de S.Carlos** | 1.8 | **Bco União de S.Carlos** | 1.6 |
| Bco dos Lavradores | 1.6 | **Bco de Ribeirao Preto** | 1.4 | **Bco de Araraquara** | 1.2 |
| Bco Mercantil de Santos | 1.2 | Bco de São Paulo | 1.4 | Bco Mercantil de Santos | 1.1 |
| **Bco de Ribeirao Preto** | 1.0 | Bco Mercantil de Santos | 1.3 | Bco de São Paulo | 1.0 |
| **Bco de Araraquara** | .94 | Bco dos Lavradores | 1.3 | Bco Comercio e Industria | .51 |
| Bco Construtor e Agricola | .78 | **Bco de Piracicaba** | 1.2 | | |
| | | **Bco de Araraquara** | 1.1 | | |
| | | Bco Comercio e Industria | .71 | | |
| | | | | Banque Française | 1.5 |
| London and Brazilian | .82 | Brasilianische Bank | .69 | Brasilianische Bank | .83 |
| Brasilianische Bank | .74 | London and Brazilian | .65 | London and Brazilian | .65 |
| British Bank | .41 | British Bank | .61 | British Bank | .43 |
| Average Regional Banks | 2.5 | | 1.7 | | 1.2 |
| Average City Banks | .96 | | 1.0 | | .69 |
| Average Foreign Banks | .64 | | .66 | | .70 |

Note: Regional Banks are in bold; City Banks are in plain font; Foreign Banks are at the bottom.
Source: Bank Balance Sheets from *Correio Paulistano, Diário Popular,* and *O Estado de São Paulo*, various years.

Table 5
Bank Liquidity Ratios after 1890
(All Uses to All Sources)

| | **1892** | **1895** | **1898** | **1901** | **1903** | **1906** |
|---|---|---|---|---|---|---|
| **City Commercial Banks** | 78.4 | 73.0 | 64.7 | 53.1 | 57.5 | 70.6 |
| **Regional Commercial Banks** | 89.2 | 82.7 | 104.6 | 81.2 | 57.4 | 67.8 |
| **Foreign Banks** | 69.9 | 66.2 | 89.0 | 99.8 | 106.9 | 87.4 |

Note: See Figure 2 for composition of sources and uses by bank group.

Source: Bank Balance Sheets from *Correio Paulistano, Diário Popular,* and *O Estado de São Paulo*, various years.

Table 6
Foreign Banks under Pressure
millions of mil-reis, percent

| | 1899 | 1900 | 1901 | 1904 |
|---|---|---|---|---|
| Deposits | 37.9 | 31.1 | 26.6 | 25.6 |
| % Change from 1899 | | | | (32.5) |
| Advances and Discounts | 41.1 | 29.7 | 26.6 | 29.0 |
| % Change from 1899 | | | | (29.4) |
| Cash on Hand | 17.2 | 20.8 | 13.5 | 10.3 |
| % Change from 1899 | | | | (40.1) |

Source: Bank Balance Sheets from *Correio Paulistano, Diário Popular,* and *O Estado de São Paulo*, various years.

Table 7
Ratio of Cash to Deposits
(percent)

| | **1893** | **1895** | **1897** | **1899** | **1901** | **1903** |
|---|---|---|---|---|---|---|
| City Commercial | 33.3 | 35.8 | 56.4 | 57.8 | 58.4 | 59.9 |
| Regional Commercial | 23.2 | 29.3 | 12.6 | 10.5 | 16.5 | 34.2 |
| Foreign | 57.7 | 63.0 | 41.2 | 45.3 | 50.9 | 39.8 |

Source: Bank Balance Sheets from *Correio Paulistano, Diário Popular,* and *O Estado de São Paulo*, various years.