A RE-EXAMINATION OF DEPOSIT BANKS:

HOW SAFE WAS THE U.S. PUBLIC PURSE IN THE 1830s?

by

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I. Introduction

The U.S. government experimented with a decentralized banking system during 1830s. At the heart of this policy were the deposit banks which were meant to act as substitutes for the central bank. The loss of banking discipline caused the nation to undergone an economic boom but the full consequences of this policy was not fully understood until it was too late. The country would paid a severe price for this bad policy as it struggled through "a decade's worth of financial excess and revulsion, featuring panics, [specie] suspensions…, the debt defaults…, a deep depression, and the embarrassment of the United States".[1] This has been eerily similar to what has happened in the past decade, or so, with the recent financial crisis. In this one, a policy was adopted to allow sub-prime mortgages and exotic financial tools (i.e. mortgage-back securities), both of which went unregulated. As the initial crisis occurred almost a decade ago, we still have been dealing with the aftermath of slow economic growth from this bad policy. An analysis of the deposit bank system may help to shed light on better understanding of how bad policies get adopted and how to avoid them in the future.

The deposit banks (or "pet" banks as opponents called them), used by the U.S. government as the depository of revenues during the Jacksonian era, were largely ignored by the literature written about this time period. This period was dominated by two significant events: the Bank War and the Panic of 1837, both of which have attracted most of the attention from researchers. The former event led to the destruction of the central bank of the time, the Second Bank of the United States (BUS), and the founding of a decentralized deposit bank system. The establishment of this system was overshadowed

[1] Sylla, "Reversing Financial Reversals" 129-130.

by the conflict of the players involved. The latter event effectively crippled that very same decentralized deposit system and led to its demise. Much time has been spent on attempting to explain the exact cause of this Panic. Both of these important events were linked by the pet banks but little focus has been placed on these banks during this period of U.S. history.[2]

However, an analysis of any kind, with the sole focus on the pets, has only been documented in a handful of papers. Most of these periodicals were descriptive analysis that made largely accepted educated assertions without being rigorously tested. One such assertion was that these pets were not the strongest candidates to be used as a government depository in a given location. This was driven by the fact that the choice was a highly political one. As one historian best puts it, the pet banks "were selected more for their political [friendliness]…than for their financial soundness".[3] The absence of available micro-bank data also contributed to a lack of interest on the pets. Using recently published datasets of antebellum banks, this paper will attempt to explain how likely were these pets to fail when compared to the alternative choice of depositories. I will employ a multivariate proportional-hazard model in testing the different banks' probability of failure. My results indicated that the selected pet banks were not significantly different from the alternative state banks. They did not face a greater chance of failure than the other banks. I found some evidence to the contrary; the selected pet banks were less likely to fail.

The "pet" banking system started with the triumphed of President Andrew Jackson in his war against the dreaded "monster" that was the BUS in late 1833. Key to Jackson's

[2] See Hammond, *Banks and Politics,* and "Jackson, Biddle, and the Bank of the United States;" McFaul, *The Politics of Jacksonian Finance*; Temin, *Jackson Economy*; Timberlake, "Specie Circular;" Rousseau, "Jacksonian Monetary Policy" for the major arguments of the Bank War or on the causes of the Panic.
[3] Howe, *What Hath God Wrought*, 388.

victory in the Bank War was removal of the source of the BUS's monetary power, the U.S. government deposits. The deposits were placed in private state banks in commercial centers, across the country.[4] In the years that followed the removal of the deposits, saw a boom fueled by growing government surplus from public land sales. The private state banks, freed from the restraint of the central bank, loosened credit with the addition of the growing deposits. The boom ended with the Panic of 1837. In less than four years' time, this panic permanently crippled the pet banking system. It was not until a deep depression took hold of the nation, that the deposits were finally retrieved from the broken system and placed back in the government's hands.[5]

Only a handful of historical papers have solely focused on the pets.[6] Harry N. Scheiber provided an overall descriptive summary of the Treasury Department's role in deposit bank system and gave important insights into the evolution of the system. The system evolved from one under total Treasury control of the selection, operation, and regulation, to one (after the Deposit Act passed) where it was difficult for the Treasury to effectively control other than in regulation. Scheiber also suggested the bank's political party ties may have played a role in the selection process of the pets. However, he concluded that this cannot be strictly the case as there were plenty of banks with opposition ties.[7] His overview of the pets demonstrated the need for closer empirical analysis.

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[4] Ibid.

[5] Gatell, "Spoils of the Bank War."

[6] Other historical analysis of this time period also tended to fall short and give the pets any attention. Hammond was one of the first to briefly mention a few of the first deposit banks. See Hammond, "Jackson, Biddle, and the Bank of the United States."

[7] Scheiber, "Pet Banks of Jacksonian Politics and Finance."

The historian Frank Otto Gatell looked more closely into the selection process of the pet banks. Gatell demonstrated that political allegiance did play a role in some of the selection rounds. However, he stressed more importantly, that the banks that had the closest connections to and had friends in the government, were most likely to be selected, than ones without those connections.[8] These decisions had some unintended headaches for the Treasury. In Gatell's case study of the Baltimore pets, he detailed the role friendships played and the troubles that occurred between the Treasury and the first pet.[9] This provided the necessary context for the hypothesis that these selections were not in the best public interest for keeping the government deposits safe. Gatell also briefly made the assertion that there were better choices of depositories.[10] This left the opportunity open for a more rigorous analysis to be conducted here in this paper.

The most recent explanations of the cause of the Panic was by Peter Rousseau. He identified a direct link between the deposit banks and the Panic through the "supplemental" interbank transfers of the public deposits. The transfers were not enough to cause a panic but after the Specie Circular came into effect, the higher demand for specie was sufficient to do so.[11] From this I suspected the specie would be a key factor in the probability of bank failure; I found limited evidence to support this from my results.

Overall, the results presented in my paper were unique, as they do not fit into the narrative described by the cited literature. Some works made the claim that the depositories were selected to reward Jacksonian bankers or friends close to the people within the

[8] Gatell, "Spoils of the Bank War."
[9] Gatell, "Secretary Taney and the Baltimore Pets."
[10] He used only a few examples where this was the case. The Arcade Bank of Providence was selected even though it was one of the worst in terms of paid-in capital. Gatell, "Spoils of the Bank War," 58
[11] Rousseau, "Jacksonian Monetary Policy."

Treasury.[12] The amount of favouritism that occurred in the selection process was undeniable. This could suggest the possibility that these selected banks were inherently weaker and more likely to fail than other banks located in the same city. From my analysis I found the exact opposite; the pets were generally safer and had a lower chance of failing than other private banks. This lends to the possible explanation that the Treasury did not always choose the best bank, if it was politically against the Jacksonians, but often would choose the next best bank that was controlled by friends of the government. The changes that also resulted from the Deposit Act did not cause the quality of the later pets to be different from the earlier selections. This result was not fully expected, given the changes that the deposit system underwent.[13]

The rest of this paper will proceed as follows: historical summary of the pet banks including the BUS, the Bank War, the creation of the pet bank system, and the developments leading to its demise in the Panic of 1837. This will be followed by a description of the data, the methodology of the analysis, and the interpretation of potential results. Subsequently, a discussion of the actual results and alternative explanations of the results will occur. Lastly, a conclusion on whether the pets that were selected were the best selections to be made by the Treasury.

[12] Gatell, "Spoils of the Bank War;" McFaul, *Politics of Jacksonian Finance*.
[13] Scheiber, "Pet Banks."

II. Historical Background

Given that the topic of this paper is pet banks and they are rarely examined in the literature, it is necessary to provide a well-rounded background. This section will provide a summary of the BUS; as it is necessary to highlight the monetary system in place prior to the removal of deposits. The next step would be to review the Bank War, which is important for putting into context the politics of the time and the creation of the pet bank system. The third part detailed the deposit system, how the U.S. Treasury Department operated it, and the important developments of it. Lastly, there will be a summary of the important details to keep in mind for the arguments made later on.

The Second Bank of the United States

Five years of economic chaos, after the closing of the First Bank, was enough for Congress to charter the Second Bank of the United States in 1816.[14] The new BUS was established to stabilize an unregulated currency, to be depository of the Treasury's tax receipts, and to manage the federal government's fiscal transactions, similar to its predecessor. It was unique for central banks at the time as the federal government was a majority stockholder and owned one fifth of its capital. In addition, the BUS also had the power to issue its own paper money which was considered legal tender. The BUS's notes could always be exchanged for gold and silver coins (specie) from the government.

As the recipient of state banks' paper notes, for payment of the taxes from customs collectors and importers and on demand redemption of specie, the BUS was in a creditor

[14] See Kaplan, *The Bank of the United States and the American Economy.*

position with the state banks.[15] The BUS, thus, had control over the state banks' ability to extend credit by presenting to the issuing bank their notes for payment of specie. The majority of notes in circulation at the time were from these state banks, primarily from issuing loans. The banks that maintained adequate specie reserves and did not overextend credit would be able to pay their obligations to the BUS immediately. This pressure from the BUS would keep the banks from overextending themselves and thus, use its pressure to expand or contract the money supply. Like other banks, the BUS issued loans to individuals, businesses, and other banks (as a lender of last resort).

Under the guidance of its third president, Nicholas Biddle, the BUS achieved its goal of creating a sound and stable currency by the time that President Jackson was elected in 1828. The BUS also survived a couple of constitutional challenges as well. The main argument in one case was that Congress had the power to charter banks only in the District of Colombia. Therefore, the BUS's location in Philadelphia made it illegal. In another instance, some states tried to meddle with some of the BUS's branches as the BUS was seen as an infringement on state powers. However, the Supreme Court, in both cases affirmed the legitimacy of the BUS. This did not please hard money advocates, such as Jackson, who saw the BUS as a "monster."

The "monster", as it was frequently referred to by Jackson, was seen as having too much power and influence while having little accountability to the U.S. government. Jackson's first message to the nation, he complained that the BUS was illegitimate and

[15] Unlike today's Federal Reserve, which is debtor to the private banks. State banks were banks that were chartered by the state legislature.

failed in creating a strong currency.[16] Jackson believed a strong currency was a one where there was no bank notes just gold and silver coins. He also had strong distrust of banks developed from an earlier incident in his life; he was nearly ruined from heavily speculating with notes. However, for all of Jackson's talk, he largely did little to the BUS during his first term in office. Jackson's inaction may have contributed to the fact that his Democrat party was divide between pro-bank and anti-bank factions (and along hard and soft money factions as well). In addition, the BUS's charter would not be up for discussion until it expired in 1836. That all changed during Jackson's re-election campaign in 1832.

The Bank War

Biddle's decision to apply for early re-chartering of the BUS in January 1832 was based on several considerations. The Bank's charter would have expired in four years' time and it was far from assured that Jackson's administration would press to renew it. Jackson's views of the Bank were well known but at odds with the pro-banking supporters within his party. The Bank was popular in Congress and during an election year, Biddle felt that Jackson would want to avoid conflict with the BUS's supporters.[17] If Biddle chose to wait until after election to apply, then the Bank would see increased hostility from the safely re-elected President Jackson in the form of vetoing the re-charter. However, Biddle severely miscalculated the situation.

[16] Already noted, the legality of the Bank was already settled in court when Jackson makes this message; see Hammond, "Jackson, Biddle, and the United States Bank," 5.
[17] Howe, *What Hath God Wrought*.

Jackson's response came quickly after Congress passed the bill in early July 1832. He viewed the early re-charter as an act of war between him and Biddle's BUS. So, on July 10, in what was called the Bank Veto Message, President Jackson vetoed the re-chartering of the BUS. The President's economic arguments in the message were weak to appease the pro-bankers within his party. But his political attack on the "monster" galvanized his support across a wide base. The message was obviously supported by those with hard-money views, but it also attracted support from bankers that resented the way the BUS controlled their use of credit, and from those who thought credit would be easier to obtain in the absence of the BUS. This coalition of voters helped lead him to re-election.

As a consequence of how Biddle's re-chartering played in the election, Jackson was resolved to diminish the BUS's power before its charter expired. Jackson came to the conclusion that the best course of attack was to remove the federal deposits from the "monster". This task could only be undertaken by the Secretary of the Treasury upon finding the deposits were at risk and after reporting to Congress, as per law. This was complicated by the fact that the Treasury Secretary, Louis Mclean, was a pro-bank supporter. His Treasury found no evidence that suggested the deposits were at risk and refused to remove them. Nearly at the same time, a House of Representatives' report also made the same conclusion. To get around this, Jackson reshuffled his cabinet by moving out Mclean and replacing him with the anti-bank William J. Duane. Duane proved resistant to the President's wishes, on the grounds of possibly being impeached for knowingly removing the deposits from a safe institution, when he made his report to Congress.[18]

[18] Howe, *What Hath God Wrought.*

As Duane's resistance to the President's arguments continued late into the summer of 1833, Jackson had Amos Kendall scout out prospective banks to hold the deposits.[19] During Kendall's tour, he met with the representatives of the banks found in the major commercial centres of Baltimore, Philadelphia, New York City and Boston.[20] His recommendations to Jackson were based on two selection criteria: (1) those that were "politically friendly will be preferred" and (2) if no "friendly" bank can be found, then the he would settle for one operated by "opposition men" with "liberal" feelings (i.e. a cooperative opposition bank).[21] Upon his return to Washington D.C., he recommended a bank in Baltimore, one located in Philadelphia, three in New York City, and two in Boston. From the investigation done by Gatell, it turned out that five out of the original seven recommended banks were in line with the former criteria.[22]

On September 23rd, fed up with Duane, Jackson dismissed and replaced with him with Roger Taney who was a willing supporter of the President's planned deposit removal. This appointment was made on an interim basis which conveniently avoided Congressional approval.[23] Taney quickly set about manufacturing an excuse for the deposit removal from the BUS. Instead of one single withdrawal that would have raised the ire of Congress, he set about depositing all future tax receipts, as of October 1st, in the banks he selected based on Kendall's recommendations. The descriptions made by Gatell showed that a "purely

[19] Kendall was one out of two within Jackson's cabinet that was a supporter of the proposed removal plan, the other being Roger Taney; Howe, *What Hath God Wrought*, 387.
[20] He had a much tougher time with the Boston bankers, as only four banks were interested with the administration's plan. Gatell, "Spoils from the Bank War".
[21] Kendall to John M. Niles, Oct. 2, 1833, John M. Niles Papers, Connecticut Historical Society, quoted in Gatell, "Spoils of the Bank War," 36. Also see McFaul *the Politics of Jacksonian Finance*, 16-48.
[22] For more details on Kendall's recommendations see Gatell, "Spoils of the Bank War", 36.
[23] Jackson throughout much of his Presidency was frequently at odds with the legislative as well as the judicial arms of the federal government. See Howe, *Hath God Wrought.*

Jacksonian pet banking structure did not emerge from the first round of selections"; however subsequent selections appeared to increasingly favour "friendly" banks.[24]

The second part of Taney's plan was to continue to pay for the government's expenditures using the deposits held in the BUS until the account ran out. That was achieved by the end of the year. In his report to Congress, Taney's reasons for these actions had more to do with the "Bank's anti-administration activities than to its financial condition," as the BUS extend credit to gain public favour.[25] This happened to lead to criticisms in Congress (especially in the opposition controlled Senate) as some saw these actions taken by Jackson and Taney as purely politically motivated. This caused outrage from the Democrat pro-banking faction and those who would later choose to split from the anti-banking Jacksonian faction. These actions also led to opponents to the charge that these depositories were "pets" of Jackson and Taney.

The Bank's President was also upset with the actions taken by the Treasury. Biddle's reaction was to withdrawal credit more hastily than was warranted from the loss of the government deposits in a bid to make the removal more publicly known. However, this move confirmed to the public the story that the Jacksonians had been telling all along; that the "monster" had too much power. Biddle's Winter Panic of 1833/34 failed to gain overall support for the BUS and committed it to a slow death until its charter expired in 1836.[26]

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[24] Gatell, "Spoils of the Bank War," 36.
[25] Howe, *Hath God Wrought*, 388.
[26] The BUS would obtained a state charter for after the federal charter expired and be renamed the United States Bank of Pennsylvania. This second lease on life would be short as the Bank would declare bankruptcy in 1841.

The Deposit System

The Deposit System underwent two phases of development: one under complete executive control that lasted from the inception of the pets in late 1833 until 1836, this was when the passage of the Deposit Act occurred which also marked the beginning of the second phase. The former phase contained a lack of official regulation over the pet bank system and left the government exposed should any pet fail. With no legal recourse to recover the deposits, any potential losses would be expressed on the Treasury's balance sheets. The latter effectively took the power out of the hands of the Treasury and the Jackson administration's control of the system.

After the fail attempt in Congress to regulate them in early 1834, the Treasury was left to devise its own guidelines for the pets. Treasury Secretary Taney outlined a guide of how the pets were selected, operated, and their relationship with the Treasury. This guide was further expanded by Taney's successor, Levi Woodbury. First, the two Secretaries kept the number of pets to a minimum and restricted their selection to major commercial centres for ease of access. Second, they maintained close communication with all pets and required all pets to regularly report their condition. Third, should any pet hold government deposits worth more than one half of its capital, the Treasury would require the personal bonds of all directors as a form of security. Nevertheless, this would still leave the Treasury exposed to the smaller pets. Fourth, they would allow the pets to expand their loans, which would counteract the reduction of credit by the BUS.[27] These rules did not include transferring deposits to aid an individual pet, thus, leaving the pet system without a critical

[27] This would reduce the severity of Biddle's Panic in 1833/34. Scheiber, "Pet Banks."

lender of last resort.[28] However, Woodbury would allow transfers of revenues between regions as to ease constraints in the money market as they arose.[29] Some of the other Treasury rules put in place for the operation of the pets had more to do with the Jackson administration attack on credit rather than sound financial practices. The Treasury demanded higher specie-reserves requirements and ceased the issue of small notes by the pets. Most pets agreed to these requirements on their day-to-day operations because the Secretary had the executive power to remove any deposit. As well, an important fact in the pets' compliance was that the Treasury did not charge interest on the federal deposits.[30]

From the lack of official regulations during this phase over the executive power of the Treasury Secretary, the selection process continued to favour "friendly" institutions and "became increasingly important in subsequent selections".[31] The next round of selections the Treasury named an additional fifteen pet banks between October and December of 1833. The third round of selections occurred slowly over the next two and half years. This period saw thirteen additional banks named which were chosen primarily to fill in geographic gaps in the pet bank system; a number of these choices were "liberal".[32] These two rounds of selections, were not as thorough as compared to the first. The Secretary would simply announce the selections, without taking a thorough survey, similar to the one that Kendall performed for the first round. This highlighted the trend that deposits went to more recently chartered banks over older ones and to banks with relatively poorer

[28] This hole, created from the demises of the BUS, was not covered by the Deposit Act and would lead to draw out the Panic of 1837.
[29] *Treasury Reports*, III.
[30] Scheiber, "Pet Banks."
[31] Gatell, "Spoils of the Bank War", 36.
[32] Many western states faced limited financial services during this period. Ibid.

capitalization rates than other potential choices.[33] This selection process all changed following the passage of the Deposit Act in June 1836; the choice of the pets was effectively taken out of the hands of the Treasury.[34]

The paying off the entire national debt at the end of 1834 and the land-sale boom in 1835/36 left the pets with swelling government deposits. The need became apparent to Congress to regulate the pets and deal with the growing surplus. On June 23rd, 1836, Congress passed the Deposit Act (also called the Distribution Act) which marked the start of the second phase of the pet bank system. The Act stipulated that the expected Federal surplus of 1837 would be distributed, proportional to population, as a loan to the states in four installments.[35] More importantly, the Deposit Act required every state to have at least one depository. The Act restricted the amount of government deposits to be no more than three quarters of the pet's paid-in capital. Any pet that suspended specie payments would automatically forfeit the right to hold Federal deposits and would be required to pay 2% interest on those deposits until they paid the Treasury back. Each pet would be required to hold specie reserves in an amount that was at the discretion of the Treasury Secretary and in certain cases, required additional security. In addition, the Act barred all pets from issuing notes smaller than a five dollar denomination. These measures, imposed by Congress, were meant to insure the government deposits. A further measure, after an amendment to the Act on July 4th, 1836, allowed the Treasury to make interstate transfers of the deposits to maintain the equable distribution between the states.[36]

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[33] Ibid.
[34] Ibid.
[35] These installments would be the key cause in Timberlake's hypothesis of the Panic of 1837. Timberlake, "Specie Circular."
[36] U.S. Statutes-at-Large, V, 115 as cited from Scheiber, "Pet Banks," 203

Due to the cap on and the equal distribution of the deposits, the Treasury was forced to end the practice of selecting "friendly" institutions. In order to meet these new obligations and the growing surpluses, the Treasury added 48 new depositories between June and the end of December in 1836.[37] Scheiber described that the conditions placed by the Act made it "impossible for the Treasury to adhere rigidly to a scheme of selection based primarily on political considerations".[38] By the design of the Act, the Treasury lost control over the selection of the pets. However, the Act was vague on the specifics of the regulation of the pets' operations; therefore the Treasury retained that aspect of control over the system. Furthermore, in preparation for the distribution of the 1837 surplus and to clear regional imbalances of the deposits, the Treasury ordered supplemental transfers of deposits between the pets. These transfers (were significant amount of specie) put sufficient pressure on the banking system especially after the Specie Circular came into force in August 1836.[39]

The Specie Circular was issued on July 11th, 1836 by President Jackson. It was a response on Jackson's part to the continued use of bank notes in every day transaction and to curtail the land-sales boom occurring in the western frontier states. The Specie Circular forced federal agents to only accept specie for all purchases of public land after August 15th, 1836. However, the very business of the eastern banks, especially in the commercial centers and seaports such as New York, involved maintaining specie reserves to facilitate trade between importers and exporters both for domestic and international companies.

[37] To note, the Deposit Act required the old depositories to be reappointed. All but three were reappointed as they were unable to meet the terms of the Act.
[38] Scheiber, "Pet Banks," 203.
[39] Rousseau main argument was that these supplemental transfers were the cause of the Panic of 1837. Rousseau, "Jacksonian Monetary Policy."

Along with the supplemental transfers, this declaration led to an additional drain on specie reserves in the east. With the banking system in New York under significant strain, it was only a matter of time before a bank run would occur.[40] The initial panic started in New York on May 8th, 1837. By May 10th, all the banks in New York suspended specie payments. This panic would spread and affect all the county's banks.[41]

The Panic of 1837 marked the end of the deposit bank system as all depositories were affected by the nationwide suspension. As the Deposit Act specified, no bank could act as a depository if it suspended specie payments, thus all pets had to return the deposits to the Treasury. Additionally, the Act stated that no transfers could be made to accommodate any individual bank which meant the Treasury was powerless to ease the shortage of specie or act as a lender of last resort. The project surplus of 1837 had turned into a deficit but the pets were still responsible to make loans to the states, as per the Act. These two points helped the nationwide suspension to last for over a year, possibly leaving it vulnerable to a second panic in 1839. The state of the deposit bank system was left in limbo over the next several years.

The former pets continued to hold deposits after the initial round of suspensions as the Treasury slowly withdrew them. It took the Treasury until late 1840 to finally recover most of the deposits from the pets. The reason why it took so long was because the economic turmoil made it difficult to recover the deposits quickly which would have made the economic downturn more painful. Furthermore, Congress was indecisive in finding a suitable alternative to the deposit bank system. It was eventually decided that the deposits

[40] For a more detail account see Rousseau, "Jacksonian Monetary Policy;" for competing argument's see Timberlake, "Specie Circular;" and Temin, *Jacksonian Economy*.
[41] Howe, *What Hath God Wrought.*

were place into an Independent Treasury system, in 1840, for safe keeping.[42] Some deposits were never fully recovered and the government losses from the collapse of the deposit bank system was about $500,000 according to Scheiber.[43] This amount is equivalent to little over fourteen billion in 2015 dollars.[44]

The Summary

The destruction of the BUS resulted from the removal of the deposits, made a stable banking system inherently unstable, as history showed. The Jacksonian Democrats gave the deposits, not only to loyal Democratic banks, but to banks that had strong ties to the administration. Little thought was given to how financially sound they were. However, after they were chosen, the Treasury payed close attention to them. The vague regulations of the Deposit Act, left the pet bank system weaker. The Act did remove the favouritism in the selection of pets but made the management of the system cumbersome as the number of pets exploded. It made the Treasury job of closely monitoring the pets and maintaining regional balances of the deposits very difficult. Lastly, the Specie Circular and the pressure of a booming economy on the whole banking system came to a crash and with it, the deposit system. This summary was meant to remind us of a handful of key events and circumstances out of many that involved the pet banks. It is meant to display the breath of the subject's material and that nothing occurs in isolation.

[42] The Independent Treasury was brief, as it was overturn by Congress a year later.
[43] Scheiber, "Pet Banks."
[44] Dollars were converted by the use of Williamson, "Consumer Price Index for the United States."

It is important to keep in mind that the Treasury selected banks based primarily on their politics or connections to the Department. If these selections turned out to be a lot worse than they were, then they could have had a serious effect on the state of the U.S. government's finances during this era. If anything would have happened to the majority of the deposits, it would be easy to imagine that the government would have been left in financial ruin and this would have been detrimental to future economic performance of the country. However, this was not the case; the majority of deposits were recovered sometime in the years after the Panic of 1837. Additionally important, was the way the pets were guided by the Treasury's unofficial rules and later on under the Deposit Act formal legislation. This could be the reason why the majority of deposits were recovered.

Even though the Treasury almost fully got away by rewarding their banking friends with deposits, the economy, as a whole, did not do so well. The move to kill the central bank left the economy susceptible to prolonged specie suspensions in absence of a lender of last resort. Initially, the U.S. economy and its citizens enjoyed the good times from the boom from the availability of easy credit. However, later on they suffered repeatedly with two panics and subsequent specie suspensions as well as a long depression triggered by the attempts from Congress to remove control from the administration. This resulted in dismal economic performance throughout the late 1830s and early 1840s. People's lives were severely affected by this political move (to kill the BUS) by the Jacksonians. This illustrates that the consequences of any policy change or undertaking has to be thoroughly examined before being executed. The history of the pet banks has been a good example of what happens when this examination does not occur.

III. Empirical Section

The Data

In this analysis, I made use of the two recently published antebellum bank databases by Warren Weber. The first database was a census of all antebellum banks that existed from the founding of the United States until the Civil War. It contained such information as a bank's dates of operation, location, and whether it was still in operation or had failed by 1861.[45] The second database contained annual balance sheets of all the antebellum banks that were in operation long enough to have published one. As a result, this database was missing some banks that were in operation for a short time (typically less than one year), so it favoured slightly sounder banks.[46]

In order to know exactly which banks held U.S. government deposits, I made use of the historical U.S. Treasury Department Reports. These reports typically were presented annually to Congress and contained a wide array of information on the state of government finances. There were two tables of interest contained in the reports; the first table listed all the banks selected as depositories, their location, and their selection date as of December 1st, 1834.[47] With the second table, I used it to compile a list of the names and locations (but not the exact date of selection) of all the pets selected as of December 1st, 1836. The missing selection date was not a concern, as the new additions had to be selected sometime

[45] See Weber, "Early State Banks" for a detail account on the construction of this census.
[46] Weber, "Balance Sheets."
[47] See Appendix 1 for the table present in *Treasury Reports*, III, 601. To note in the top panel of the table lists deposit banks that were in service of the government prior to the Bank War. These were selected because of a lack of nearby branch of the BUS (as citied from Gatell "Spoils of the Bank War," 56).

between the passage of the Deposit Act of June 23rd, 1836 and when the report was prepared in December of that same year.[48]

I used the first table to find the locations of the pets first selected (i.e. September 23rd, 1836). There were a total of seven pets in the first round which were found in Baltimore, Boston, New York, and Philadelphia. Next, I used the antebellum census to find all banks in operation in those above cities during the 1830s. I chose to focus only on these banks for two reasons. The first reason was that they served as the alternative choice of deposit bank to the actual pets located there. The second reason was for feasibility; to quote Gatell, "[i]ntensive scrutiny of close to a hundred [pet] banks would turn any [person] into an antibanking Locofoco".[49] I then used the reduced census to collect and assemble a panel from all the banks' balance sheets. I converted all nominal dollar amounts into 1835 dollars using Williamson's historical U.S. CPI.[50] The panel covered 1830 until 1845 and contained information of 103 banks, including the original seven deposit banks and fifteen additional pets.[51]

The following table detailed the status of the bank sample at selected dates of interest. The dates were selected to demonstrate how the banks faired over time. To show the survival rate from the whole 1830s decade, the year of 1840 was chosen. The date, 1845, was chosen to show the high amount of failures and closures that took placed in the

[48] See Appendix 2 for the tables present in *Treasury Reports,* III, 746-757.
[49] Quote taken from Gatell, "Spoils of the Bank War," 36-37. The Locofocos were a radical fringe within the Democrat Party that advocated laissez-faire policies; however they are better known for their hard money views of the promotion of the increased use of specie, and against everything that involves banks and finance. McFaul, *the Politics of Jacksonian Finance*.
[50] Williamson, "The Annual Consumer Price Index for the United States, 1774-2015."
[51] Five banks that were included had missing balance sheets but their operational dates were observable. The addition of these banks added two banks to close for 1861 and 1845, and two for good in 1840. There was one additional bank failure in 1861 and 1845 and one more closure in 1840.

depression that resulted from the nationwide suspension in 1839. A natural choice was the census's end date of 1861, which indicated little change after 1845. A good bank was defined as one in operation during the year of interest. A bank that closed was defined as one that shuts down operations by fully paying off all debts and liabilities. A failed bank was one where it could not pay off all debts and liabilities. There was one bank where there was no information on how it ended operations.[52]

It was important to note, that the majority of the failures and closures occurred after the start of the Panic of 1837. There was only one failure (and zero closures) prior to the Panic. This was the Bank of Maryland which had failed at the height of Biddle's panic in the winter of 1833/34.[53] The next observation made was the spike in the number of failures and closures after 1840. This was probably due to the difficult economic climate for banking resulting from the prolonged depression affecting the U.S. from 1839 until 1843.[54] The depression appeared to have contributed to an additional eight banks to shut down and four more to fail after 1840. Beyond the early 1840s depression, there was only one additional failure (and zero closures) after 1845. This indicated the majority of banks that managed to survive the economic turbulence from the two panics and subsequence depression were likely to still be in operation at the start of the Civil War.

[52] As defined in Weber, "Early State Banks."

[53] This failure was not entirely due to the contraction of the BUS. Part of the blame is due to the speculation activities that the Union Bank of Maryland's (the Baltimore pet) president was involved in with the Bank of Maryland. For more on the troubles of choosing friends, see Gatell, "Secretary Taney and the Baltimore Pets."

[54] Sylla, Richard. "Reversing Financial Reversals."

Table 1
Summary of Bank Status at Select Dates

		Good	Closed	Failed	No Info
All Banks	As of 1840	85	11	6	1
	As of 1845	73	19	10	1
	As of 1861	72	19	11	1
Pet Banks Only	As of 1840	18	1	3	0
	As of 1845	17	2	3	0
	As of 1861	17	2	3	0

Notes: Numbers calculated based on Weber, "Early State Banks."

At the end of the 1830s, the total failure rate of all banks was 5.83% while the closure rate was 10.68%; post-depression, 1845, these rates jumped to 9.71% and 18.45%, respectively. The major highlight from the lower panel was that the failure rate between the pets was 13.64%. The pets, across all banks, had a lower failure rate when compared to the whole sample (2.91% versus 5.83%). This suggested the pet subsample maybe relatively more financially sound than the whole of the banking sample. This indicated possible evidence against the hypothesis that the Treasury selected weaker, well connected pet banks. However, the majority of selections (fourteen of them) took place after the Deposit Act. In absence of the administration's involvement in the selections due to this Act, these additions could have been financial sounder banks than the previous eight pets. Thus improving the average of all pets when compared to the whole bank sample.

Focusing on the pets, out of the original seven pet banks, one failed in late 1838; this was the Commonwealth Bank of Boston. The rest of the failures and closures were from banks selected in accordance with the Deposit Act. When comparing the absolute numbers, it appeared that the post-Act selections were weaker than the earlier ones as there was two failures and one closure. However, when comparing the individual rates, it indicated that the first seven were more likely to fail (14.23% versus 13.33%), but the later selections were more likely to close (0% versus 6.67%). If the number of failures and

closures were combined then the combined rate became 14.23% and 20%, which was once again in line with absolute numbers comparison. The additional closure, after 1840, was a bit misleading as it occurred in 1842. This was after President Martin Van Buren had the deposits returned to the government, however, it may indicate that some of the pets depended on the government deposits to function.

Overall, these statistics can be interpreted in several ways as demonstrated above. The contradictory nature of them made it difficult, at this point, to determine an answer to whether the pets were poor choices to maintain the security of the government deposits. To get a better understanding, we must move onto the descriptions of the empirical test.

The Model

To demonstrate the riskiness of the pets, when compared to the other banks in the sample, is by modeling the probability of a particular bank's failure using a multivariate proportional-hazard model. Cox's methodology uses a semiparametric "partial likelihood" approach that only needs the specification of the scale in order to compute the coefficients. Unlike the standard hazard model, the Cox approach does not require the estimation of the density function or the so called baseline hazard function (see below).[55] The probability of failure conditional on the survival of bank *i* to time *t* is represented by:

$$\lambda(t, X_t, \beta, \lambda_0) = \lim_{h \to 0} \frac{Prob(t \leq T < t + h \mid T \geq t)}{h} = \lambda_0 \exp\left(X_i\left(t_{ji}\right)\beta\right), \qquad (*)$$

where T is the bank *i*'s failure date, λ_0 is the baseline hazard function which is common to

[55] For more details see Cox, "Regression Models and Life-Tables," and "Partial Likelihood."

all banks, X_i is a matrix of explanatory variables (including a constant), and β is the vector of coefficients. As can be seen from (*), the scale function is exponential, which is the most often chosen scale. The scale is necessary for the hazard to capture the variation across time and banks. The explanatory variables enter into the scale function linearly.

The coefficients can only be interpreted as the probability of failure in the next instant of time (assuming it survives to *t*) instead of the marginal effect of change in a variable because the value of the explanatory variable also affects the true probability of failure. In order to get the marginal probabilities, it would require placing additional assumptions on the hazard function (such as assuming a particular distribution of the hazard) that would create uncertainty in the results and lose the benefits of using the Cox approach over more parametric methodologies.[56] Those assumptions are not needed here as I will be focusing on the signs of the coefficients, but not their absolute value. That way, there is no confusion with the interpretation of the effects on probability of failure.

The hazard model operates similarly to a panel probit or logit model as it takes each year (*t*) that an individual bank was open as a unique observation for that bank. This special type of binary response model takes account of the survival time when modeling the probability of failure of bank *i*. This is a major improvement over a probit or logit estimation as these types of models do not take the life span of a bank into consideration. A bank enters into the hazard on its start date and exits when it fails (or is censored). The variation between the start and end dates, allows the hazard to calculate the coefficients.

[56] Jaremski, "Free Bank Failures;" Evrensel, "Banking Crisis and Financial Structure;" Henebry, "Cash Flow Variables."

The observed characteristics from the balance sheet, X_i, controls for variations between individual banks. The main variable of interest, *pet*, captures any differences in the probability of failure between the two types of banks under examination. This allows the intercept of the hazard function to vary. A one indicates the bank is a government depository and a zero is just a regular private state bank.

The matrix, X_i, also includes many constructed CAMELS measures, but without additional information, a full set of measures is impossible to calculate.[57] The first to control for differences in balance sheet size is the log of total *assets*. Capital adequacy measures the bank's ability to remain solvent with fluctuations in the value of its balance sheet. I use the *capital* ratio to control for capital adequacy. This ratio is constructed by the value of capital divided by value of total assets. Liquidity in today's banks means something different than what it meant prior to the advent of deposit insurance. In the past, liquidity is the ability to meet deposit withdrawals and specie payments on demand or, in other words, the sustainability to meet bank runs. This is measured by *specie*, which is constructed as a ratio of cash and cash items to total assets. The second liquidity measure is *circulation*, which takes into account future demand for specie redemption (or bank runs). *Circulation* is the ratio of total circulation to total assets. Sensitivity to market risk measures the diversity of a bank's balance sheets to accommodate economic shocks and is captured by three variables. The diversity of liabilities of a bank is captured by *deposits*. *Deposits* is the ratio of total deposits to total assets. Another type of diversity is in assets

[57] CAMELS is a modern set of measures used in the rating of bank quality, and each letter represents a different aspect of bank quality: C for capital adequacy, A for asset quality, M for management quality, E for earnings, L for liquidity, and S for sensitivity to market risk. Missing in this analysis is information on management quality, earnings, and a detail composition of the bond portfolio for measuring sensitivity to market risk. The methodology is similar to Jaremski, "Free Bank Failures."

which is measured by the *loans* and *bonds*. *Loans* is constructed by the loans and discounts divide by total assets. *Bonds* is the ratio of the sum of both state and federal assets to total assets. There are additional variables contained in X_i to control for variations in failure rates across cities and time. The city dummies control for differences in regulations that banks are subject to at a particular location.[58]

Often panel datasets produced bias estimates due to the correlation between the residuals across groups.[59] As well, it is likely that major economic events will have an impact on the results.[60] To correct these issues, I will be using time fixed effects and clustering the standard error by city.[61] There is still the issue of multicollinearity in the data and cause misinterpretation of the true results. I estimate the matrix of correlations and inspect each pair of variables to make sure none have a high correlation. A second test is also performed by calculating the variance inflation factors on a simple linear panel. The results from both the tests indicate multicollinearity is not an issue in the dataset.

The Interpretation of Potential Results

As noted earlier, banks were picked to be depositories based on their connections to the administration, prior to the Deposit Act. The politically selected pet banks could either be more risky or sounder financially than the other banks. From the earlier subsection, the summary statistics did not provide any resounding answer to the question

[58] These can be thought of as state dummies, since each city of interest is located in a different state (i.e. Maryland, Massachusetts, New York, and Pennsylvania).
[59] Within group correlation arise from characteristics shared by individuals within the group but not to those outside the group, for example city specific economic trends.
[60] Time correlations indicate significant events, for example, the land sales boom in 1835 and 1836 or the panic and subsequent specie payment suspension in 1837 and 1839.
[61] Petersen, "Estimating Standard Errors in Finance Panel Data Sets: Comparing Approaches."

of their individual stability; pet banks could potentially fall into either category. This would be indicated by the variable *pet* being significantly different from other banks' failure rates. If the coefficient on *pet* was significantly different from zero, then the coefficient would have a meaningful interpretation depending on the sign.

Since earlier research demonstrated that the Treasury Secretary considered politically connected banks before any other banks, it could be possible that the pets were riskier than the whole sample.[62] If the choice of the pet bank was made exclusively based on political connection alone, then it would be expected that these pets had a higher probability of failure than the non-pet banks. If this was the case, then the coefficient on *pet* would have a positive sign. This implied that the selected pets were riskier than the alternative and the Treasury put the safety of the federal deposits at risk.

However, the question comes up as to whether the Secretary would have knowingly placed the government purse in the hands of "friendly", unsound banks, when there were better ones to choose from. Mostly likely, the Secretary would prefer "friendly" banks but for those with sound financial practices. This would mean that the deposits would not necessary be placed in banks with the absolute best financial practices if they had opposition allegiances, but they were placed in the next best choice of bank that was "friendly." This would be shown by a statistically significant and negative coefficient on the *pet* variable. The negative sign meant that the pet banks had a lower probability of failure than the majority of banks. This would imply that the Treasury's selection of "friendly" banks were a safe choice to hold the national deposits.

[62] Gatell, "Spoils of the Bank War."

The control variables, that were described earlier, should be interpreted in a certain way to properly reflect how they related to the probability of a bank failure. *Capital* should have an inverse relationship with the failure as an increase in *capital* implied the bank had more flexibility in dealing with negative economic shocks on the value of what it owns (i.e. assets). An increase in *assets* also reduced the likelihood of failure because the bank owned more on the asset side of its balance sheet than what it owed on the liability side. *Specie* and *loans* are different types of assets, they both have a negative relationship with the failure rate. An increase in *specie* could be thought as an increase in the amount of reserves, thus, allowing the bank to sustain a longer run on it. An increase in *loans* was interpreted as diversification of assets, thus lowering the bank's risk to loan defaults. *Bonds* were also an asset, however, they would have a positive relationship with the probability of failure. Compared to loans, bonds were relatively illiquid because the maturity dates were longer and this made bank more vulnerable to economic fluctuations.[63] On the liability side of a bank's balance sheet, an increase in *circulation* meant the bank had a higher probability of failure. The more bank notes that were in circulation meant higher future demand for specie and a greater chance of a bank run. *Deposits* were also a liability for the bank so it should be expected to have a negative relationship with failure rate. This was due to the fact all depositors can demand all their money, at any time. If depositors lose confidence in the solvency of the bank, a bank run was inevitable.

[63] Jaremski, "Free Bank Failures."

IV. Results

Both the traditional historians and the economic historians have relied on anecdotal evidence in the limited examinations of the Jacksonian pet banks. In this section, I will test their assertion that the pets were weaker than other state banks by estimating the probability of bank failure between the two types of banks. Using the dataset constructed from the sample of banks found in four of the biggest financial centers on the Eastern seaboard, I will hopefully shed some light on whether the pets had a higher or lower probability of failure when compared to the other banks. Examining the sign of the pet bank dummy and its associated significance level will determine if any differences exist.

The following Table 2 displayed the results of the estimation of the Cox proportional-hazard partial likelihood model from equation (*). Columns (1), (3), and (5) all have the pet bank dummy as the only explanatory variable.[64] Column (1) had no fixed effect controls, (3) only controlled for differences in state bank regulation and reporting, and (5) accounted for the effect of panics and specie suspensions had on the probability of failure. Both columns (1) and (3) showed the coefficient on *pet* was highly significant at the 1% level. As to be expected, the inclusion of the time fixed effects, removed all of the significance of *pet*'s coefficient. It also meant that any potential differences between deposit and state banks could be a product of economic variations over time. The sign of the coefficient on *pet* of all three columns is consistently negative, meaning that the pet banks had a lower probability of failure than the other state banks.

[64] These estimations include the five banks that were missing balance sheet as the duration of their operation, location and whether these were a pet or not (they were all not) were known. Removing them from these estimations does not significantly change the results.

Table 2
Bank Failures

	(1)	(2)	(3)	(4)	(5)	(6)
Pet	-1.5741***	-0.5898	-2.0396***	-0.8782***	-0.3899	-0.0717
	(0.2759)	(0.4365)	(0.2952)	(0.2657)	(0.5873)	(0.3130)
ln(Assets)		-1.9659***		-1.7530***		-1.6791***
		(0.5251)		(0.5282)		(0.5684)
Capital		-0.7082		-0.7987		-2.1866
		(0.5300)		(0.5230)		(1.8216)
Specie		-1.3405		-1.6557		-3.1875***
		(0.9813)		(1.0729)		(0.9490)
Deposits		-0.3864		-0.0230		2.0957*
		(0.8286)		(0.3530)		(1.1868)
Loans		0.6957		0.6068		1.0420
		(2.0524)		(2.6157)		(2.3669)
Bonds		-4.8942		12.8388		18.5851
		(11.6409)		(13.7880)		(14.4838)
Circulation		-5.4773***		-5.4866***		-8.4184***
		(1.9401)		(1.7910)		(1.0915)
City Effects	No	No	Yes	Yes	Yes	Yes
Time Effects	No	No	No	No	Yes	Yes
Observations	1135	1130	1135	1130	1135	1130
Pseudo R^2	0.0246	0.2445	0.0932	0.2827	0.3177	0.4616

Notes: The estimation was a Cox proportional-hazard partial likelihood model. The dependent variable was whether a bank failed during the year. This model treated every year that a bank was operational as a unique observation but connected them for each individual bank. The standard errors were given in parentheses and have been clustered robust by city for each estimation. *, **, and *** denotes statistical significance at 10%, 5%, and 1% level, respectively.

Columns (2), (4), and (6) expanded the estimation to account for the composition of each individual bank's balance sheet. Only column (4) has the *pet*'s coefficient significant (at 1% level) but the addition of the year fixed effects removed all the significance from it. Similar to the previously mentioned columns, the sign of the coefficient on *pet* was negative suggesting the pets had a lower probability of failure but these numbers are not statistically different from zero in two of the three columns. Not unexpected, the coefficient on *assets* was negative and significant. This suggested that all banks that had larger balance sheets had lower probability of failure. The coefficient on *deposits* had the opposite sign, than was predicted, in column (6) only. This was not too concerning as it was only weakly significant at the 10% level. The table, as a whole,

seemed to show that the economic conditions (the panics, suspensions and depression) had more of an effect on the banking and financial system than whether a particular bank received government deposits or not.

As well, negative and significant across the three columns was the coefficient on *circulation* but the sign was problematic as it suggested the more notes issued would lower the chances of bank failure. After running many additional regressions such as eliminating variables, limiting observations, and checking the independence between failures and censors (i.e. bank closures), all reinforced the negative sign on the coefficient on *circulation*.[65] As the bank sample contained only banks from major metropolitan cities, it could be possible that issuing notes acted as a signal to indicate that the bank was financial sound. The banks that issued more notes made sure they had high quality assets to meet the expected future redemption on the notes. The negative sign could also be a result from the sample as these banks were located in large cities. The bank notes would be much more common place in everyday transactions than in small cities or western frontier states; thus lowering the redemption rates and causing the negative sign. By expanding the sample, it should be expected that this significant negative sign on *circulation* would disappear.[66]

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[65] I did not report the results from this test as some of the estimations caused the hazard functions to lose proportionality. The violation of the proportional hazards assumption caused the estimates to be bias. The test performed maybe not be reliable due to the small size of the sample used but, to avoid confusion, the results were not reported.

[66] I did not check explicitly if this was the case, because this problem was a digression to the discussion here. However I did refer to the results of Jaremski. In Jaremski's analysis of free banks, he used a nationwide antebellum bank sample and most of the reported results have the correct positive sign on his variable: Circulation/assets. The one regression where there was an insignificant negative sign on Circulation/assets, where his dataset was restricted to banks in New York only. See table 6, column 4 of Jaremski, "Free Bank Failures," 1581. I performed a similar set of regressions by excluding each city, but the wrong sign continued to persist on *circulation* in all estimations.

Next, I performed a check on the robustness of the results presented in Table 2. There was a concern that the high number of failures occurred in years that coincidently had high numbers of bank closures too. The partial likelihood approach of estimating the hazard model required the probability of a failed event to be independent from the probability of a censored event.[67] So far in this analysis, the bank closures had been treated as a censored event. The coincidence between bank failures and closures seriously questioned the independence between the two. To check the robustness of this assumption and the earlier results, I estimated the hazard model where the dependent variable included both bank failures and closures. This changed the meaning of the coefficients to the instantaneous probability of bank failure or closure. As discussed in the previous section, I will only focus on the sign and what it means for the probability. Overall, it appeared the results from Table 2 appear consistent with the results accounting for closures and failures (both types of bank exits) with some notable exceptions (see Table 3 below).

The results from the regressions that take into account bank closures were presented in Table 3. Columns (1), (2), (4), and (5) in Table 3 are comparable to columns (1), (2), (5), and (6) presented in Table 2. A benefit of taking account of bank closures in the regressions, allowed the addition of interaction terms between the *pet* dummy and the other explanatory variables.[68] Columns (3) and (6) were the result from the regressions with the interaction terms. The interaction terms captured any unique pet bank characteristics from

[67] Cox, "Regression Models and Life-Tables," and "Partial Likelihood."

[68] For the results that focused exclusively on bank failures, I estimated the hazard model with interaction terms. These estimations had many issues with them due to a lack of convergence of the likelihood estimation or violations of the proportional hazards assumption or simply coefficients on the interaction terms had no meaning because they had limited variation.

Table 3
Bank Failures and Closures

	(1)	(2)	(3)	(4)	(5)	(6)
Pet	-0.3418	0.4353	-13.1935	0.7816	1.2452	-10.6795
	(1.0967)	(1.0729)	(22.0593)	(1.0586)	(1.3439)	(7.4679)
ln(Assets)		-1.7265***	-1.8401***		-0.9296***	-0.9607***
		(0.5214)	(0.6679)		(0.3082)	(0.2907)
Capital		-1.8663	-3.5454*		-1.4485	-2.5580
		(2.1023)	(1.8303)		(1.5289)	(1.8738)
Specie		-1.2582	-1.4742		-2.1245**	-1.8349
		(1.0939)	(1.5582)		(1.0207)	(1.2873)
Deposits		-2.4632**	-4.7959***		0.6805	-0.3528
		(1.1905)	(1.7896)		(1.0054)	(1.7641)
Loans		1.0150	0.5438		1.1972	0.7361
		(1.4260)	(1.4600)		(1.6587)	(1.8590)
Bonds		-15.8735	-124.6553		-44.0935	-157.2247
		(18.5096)	(145.1534)		(46.0076)	(162.5464)
Circulation		-6.9041**	-9.4445**		-5.6297***	-6.9158***
		(2.9108)	(3.7347)		(0.7778)	(0.5261)
Assets*Pet			0.2732			-0.2441*
			(1.4317)			(0.1337)
Capital*Pet			2.5634**			-1.4652
			(1.0176)			(12.8567)
Specie*Pet			0.7900			1.3031
			(1.4417)			(2.2196)
Deposits*Pet			7.5171***			-7.7832
			(2.1462)			(13.3528)
Loans*Pet			6.7609**			14.6507
			(3.0432)			(16.9002)
Bonds*Pet			132.1598			109.7923
			(157.9206)			(185.1878)
Circulation*Pet			7.1401			40.8724**
			(8.5776)			(19.1502)
City Effects	No	No	No	Yes	Yes	Yes
Time Effects	No	No	No	Yes	Yes	Yes
Observations	1130	1130	1130	1130	1130	1130
Pseudo R^2	0.0021	0.1865	0.2083	0.2605	0.3494	0.4138

Notes: The estimation was a Cox proportional-hazard partial likelihood model. The dependent variable was whether a bank failed or closed during the year. This model treated every year that a bank was operational as a unique observation but connected them for each individual bank. The standard errors were given in parentheses and have been clustered robust by city for each estimation. *, **, and *** denotes statistical significance at 10%, 5%, and 1% level, respectively.

the explanatory variables. This helped to determine why certain pets were more likely to exit than other pets (i.e. idiosyncratic risk).

As can be seen from the table, the coefficient on *assets* remained significant and negative meant that an increase in the size of a bank's balance sheets helped to decrease

the bank's probability of exit. Also robust in this table, was the negative sign on *circulation*, and had the counterintuitive meaning that more notes issued helped to contribute to the financial soundness of a bank (perhaps acted as a signal). From column (2), *deposits* was the only other variable that had a significant coefficient. However, that could be due to not controlling for city and time fixed effects because the significance disappears in column (5). When those effects were controlled for, then it appeared that *specie* was significantly correlated with bank exits. The sign of the coefficient on *specie* implied that, by maintaining a higher reserve ratio, reduced the probability of exit.

The main observation from Table 3, was that the coefficient on *pet* was no longer significant in any of the regression and was consistently negative. The even split between negative and positive coefficient signs weakened the earlier evidence that pet banks faced a lower rate of failure than other banks. This evidence cannot be completely discounted because of the inclusion of closed banks did not make the two tables exactly comparable. In other words, the equal number of both positive and negative signs meant that the pet banks rate of failure or closure was no different than other banks. In addition, there appeared to be some differences between state bank coefficients and the pet bank coefficients as columns (3) and (6) demonstrated. The coefficient on the interaction term *capital*pet* was positive significant at the 5% level in column (3). This meant that the pet banks that were more capitalized were more likely to fail or close than other pet banks. This was counterintuitive because more capital should reduce the probability of exit. This significance on pet bank capital was not present when adjusting for city and time fixed effects (i.e. column (6)), meaning it was more to do with the overall economic conditions and city effects than a characteristic of pets' balance sheets. The economy during the

period under analysis and differences between cities also contributed to the significant and wrong sign of the coefficients on *deposits*pet* and *loans*pet* found in column (3), as they were not present in column (6). From column (6), *assets*pet* was weakly negatively correlated with bank exits. Lastly, the coefficient on *circulation*pet* was significant at the 5% level and had the correct sign when the regression was adjusted for city and time characteristics. The previous two interaction terms implied that the pet banks expanded the size of their balance sheets, or issued less notes, faced a lower probability of exit than other pets.

The results from this section indicated some evidence of a distinction between the selected deposit banks and state banks in their respective failure and exit rates. It appeared that the pet banks were generally faced with a lower probability of failure, possibly due to their sound banking practices or from the unobserved effect of holding U.S. government deposits. It could also be the case that the Treasury Department's close scrutiny and regulation kept the majority of pets from behaving badly. The lower probability of failure indicates the selected pet banks (located in the four major cities of Baltimore, Boston, New York City, and Philadelphia) did not pose a significant risk to the safety of the government deposits. The evidence presented here did not refute the historical account of the Jacksonian Democrats rewarding their friends in the banking sector with U.S. government deposits; these banks were still worthy of their "pet" status because of this political favouritism. In other words, the analysis of this banking sample found no evidence suggesting these deposit banks were no worse than any other state bank.

V. Alternative Explanations

The above analysis mostly assumed there were no difference between the first three rounds of pet selections (eight pets fell into this category) and the selections after the passage of the Deposit Act (a total of fifteen pets were post-Act selections). There was mostly likely a distinction between the exit rates of pre-Act pets and post-Act pets. If there was a true distinction between the two types of pets, then this could possibly account for some of the previous results. The distinction seems to be presented in the summary statistics, so it warranted further investigation here.

The Act had two key requirements on the Treasury: the first was that it had to reappoint the previously selected pets and the second was that no pet could hold government deposits in excess of three quarters of its capital. The former guaranteed the original pets remained as depositories while the latter forced the Treasury to consider all banks that met the requirements to become a depository. In a span of a few months after the passage of the Act, the number of deposit banks grew from 33 to 81.[69] In the haste of complying with the Act, the Treasury was force to redistribute the deposits from the old pets to the newly named ones and proportionality distribute the deposits between all states. It was hard to imagine that the Treasury Department with its hands already full from moving deposits between banks and states (as well preparing for the expected 1837 surplus) could conduct a well detailed review of the all 48 of the additional banks prior to selecting them.[70] Given the short timeline of the additional selection, this indicated they desperately

[69] Just to note, three of the original pets were not reselected as they failed to meet the requirements laid down in the law. These three pets were located outside this banking sample. see Treasury Reports, III, 689-694 and Table E

[70] Gatell, "Spoils of the Bank War;" Scheiber, "Pet Banks;" and Rousseau, "Jacksonian Monetary Policy."

Table 4
Old Pets vs. New Pets

	(1)	(2)	(3)	(4)
Oldpet	-0.9503	0.9972	0.1246	1.4249
	(1.0228)	(1.1086)	(1.2248)	(1.1341)
Newpet	-0.3122	0.2930	0.5095	1.1682
	(0.6156)	(0.6756)	(1.0640)	(1.4563)
Balance Sheet Controls	No	Yes	No	Yes
City Effects	No	No	Yes	Yes
Time Effects	No	No	Yes	Yes
Observations	1135	1130	1135	1130
Pseudo R^2	0.0057	0.1880	0.2201	0.3496

Notes: The estimation was a Cox proportional-hazard partial likelihood model. The dependent variable was whether a bank failed or closed during the year. This model treated every year that a bank was operational as a unique observation but connected them for each individual bank. Balance sheet controls included all the bank attributes described from the data subsection. The standard errors were given in parentheses and have been clustered robust by city for each estimation. *, **, and *** denotes statistical significance at 10%, 5%, and 1% level, respectively.

needed the additional banks in order to achieve the three quarters limit of deposit in all pets and to meet the other obligation set forth by the Act.

The possibility that the post-Act selections were less financially sound than the older pets, was indicated by the summary statistics. This meant that older pets were less likely to fail when compared to the newer pets. The newer pets would most likely have significantly higher probability of failure then the whole of the banking population. In a secondary test, this difference was estimated with two dummies variables: *oldpet* and *newpet*. The former indicated a bank with a one as a pre-Deposit Act pet, while a one in the latter indicated a post-Deposit Act pet, or a zero is otherwise. The interpretation of both *oldpet* and *newpet* was similar to *pet*. It should be expected that the coefficient on *oldpet* (*newpet*) would be significant and positive, meaning that the old (new) pets face a higher probability of exit than the state bank. A negative sign would mean the old (new) pets are less likely to exit.

Table 4 demonstrated the differences between these two types of pets and state banks. Columns (1) and (3) were regression of the dummies on bank exit, whereas columns (2) and (4) were run with the additional balance sheet controls.[71] Across all four columns it appeared there is no difference between both types of pet banks and state banks as none of the coefficients were significant. In each column, both pet dummies have the same sign on their respective coefficients and are positive in three out of four regressions. This suggested that the politically selected pre-Deposit Act pets were no different than the pet selected after the Act came into effect.

After accounting for differences between the two types of pet banks, the main results of the analysis seemed to hold but were quite limited. The aim of such a narrow focus on a few major cities was to demonstrate a difference between pet and state banks, which was what the main result suggested was true. The results could change when the dataset was expanded to take into account of all pets and all banks in operation at some point in the 1830s across the whole country. The anecdotal evidence put forth by the small number of researchers, which pointed to some cases where Treasury Department did not select the safest bank to hold the deposits, conflicted with the result presented in this paper that they were safe. It would be expected that the additional information from a nationwide analysis of this period of U.S. banking history would yield a definite answer to the question: were the selected pet banks more at risk of failure than other state banks or not? This would help to resolve the differences between what was found in this paper and the evidence provided by the historical researchers.

[71] The balance sheet controls were not report because they did not add any more information to the analysis; their coefficients were very similar to the ones in Table 3.

VI. Conclusion

The pet bank system, that held the U.S. federal deposits, was largely neglected in the literature probably due to the two larger events that occurred during the same time: the Bank War and the Panic of 1837. The few traditional and economic historians that have focused on the pets highlighted the political motivation in the selection of the depositories. They showed a few cases where the selected deposit banks were not the best in term of capitalized and were chosen because of political allegiances or connections to the administration.[72] These politically motivated selections posed a risk to the safety of the government deposits. I constructed a small sample, made up of banks found in four major cities to test whether or not the pet banks selected were riskier in the sense that they had a higher probability of failure than the alternative state banks.

First, from the bank data, I found mixed evidence for and against the riskiness of failure for a pet bank. I then ran a number of tests using a Cox proportional-hazard partial likelihood model to estimate the difference probabilities of failure between pet and state banks. These results provided some evidence against the historians' hypothesis that the pet banks were more risky than state banks. This was indicated by the apparent negative coefficient on the dummy variable indicating which banks were pets or not. The consistently negative coefficient showed that the pet banks faced a lower probability of failure than other state banks. Next, in terms of bank failure and closures, I found evidence that suggested the pets and state banks probability of exiting did not differ significantly. However, there may be differing reasons behind a pet bank exit and a state bank exit. As

[72] Gatell, "Spoils of the Bank War;" and Scheiber, "Pet Banks."

well, I found no evidence to indicate differences from the selection of pet bank prior to and after the passage of the Deposit Act of June 1836.

A major source of error in all these results could be due to the small bank sample size used in this paper. The other source was from being unable to observe the amount the government deposited in each bank. Correcting these two potential source of error went beyond the scope of this paper, but would be important to see if the traditional and economic historians were right. The scope of this paper was to provide some insight and further motivation on this easily overlooked historical economic topic. The main result from this paper was not the absolute answer to the question posed. It needs to be verified further with an analysis involving the whole nationwide population of state and pet banks. An analysis of that depth would provide much more conclusive evidence of the safety of the deposits in the selected depositories. In addition the effects of receiving deposits on a bank's operations would need to be studied more thoroughly. It may be the case that banks behaviour changed after being selected and may have cause it to operate in a more or less risky fashion.

The analysis here was meant to shed new light on an easily forgotten subject and add to the present knowledge of the pet bank saga. It showed, empirically at least, these pet banks were no worse off than any other bank. It supported an argument that the Treasury's scheme, when it set up the deposit bank system in the first four cities, was generally a sound one. The Treasury did not overall select bad banks over good banks based on political considerations. However, on an individual basis, the Treasury may have made a few poor choices for a pet, as Gatell demonstrated. His interpretation of the events highlighted several instances where the Treasury made the selection on political

considerations and not necessary economic ones.[73] After the selection, the Treasury's close monitoring and regulation perhaps curtailed any risky financial adventures by the better behaved pets.[74]

In conclusion, the placing of government deposits into private state banks (i.e. pet banks) did not pose a significant risk to the safety of the public purse; these banks were no more likely to fail than any other bank. Nevertheless, there was the possibility for it to end badly for the Jacksonian Democrats and in some ways it did. Even though they retrieved the majority of the deposits, they could not escape from the economic turmoil they unleashed from the destruction of the BUS, in the latter part of their mandate. The decision to switch from a stable centralized banking system, ruled by a central bank, to a decentralized one, where it is ruled by the private bankers (whose economic incentives did not align with the public good) caused the nation prolonged anguish. The turmoil caused public outrage aimed squarely at the Jacksonians, which would cost them the election in 1840. This illustrates that economic experimentation should not be undertaken rashly. Nevertheless, this is a hard lesson to learn as once again experimentation for the bankers' benefit (this time with sub-prime mortgages and credit default swaps) has caused the most recent financial crisis and subsequent poor economic performance in the aftermath.

[73] Gatell, "Spoils of the Bank War," and "Secretary Taney and the Baltimore Pets."
[74] Scheiber, "Pet Banks."

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Appendix 1: The List of Pets as of December 1st, 1834

A.

LIST of selected State Banks.

	Names of banks.	Dates of selection prior to 26th September, 1833.	Remarks.
1st.	Merchants' Bank of Salem	Prior to 1819	For deposite and payment only.
	Bank of New London	Prior to 1820	Do.
	Bank of Newport	Prior to 1819	Do.
	Bank of Bristol	Prior to 1819	Do.
	Farmers and Mechanics' Bank of Albany	Prior to 1829	Do.
	Bank of Harrisburg	Prior to 1819	Do.
	Branch of Farmers' Bank of Delaware, New Castle	Prior to 1820	Do.
	Bank of Virginia, branch at Petersburg	Prior to 1829	Do.
	Bank of Virginia, branch at Fredericksburg	Prior to 1829	Do.
	Bank of Virginia, branch at Lynchburg	Prior to 1831	Do.
	Bank of Michigan	Prior to 1824	Do.
	Bank of Middletown	April 21, 1824	Do.
	Mechanics' Bank, New Haven	Februa'y 26, 1830	Do.
		SELECTED.	
2d.	Merchants' Bank, Boston	Septem'r 26, 1833	On usual terms.
	Commonwealth Bank, Boston	Septem'r 26, 1833	Do.
	Manhattan Company, New York	Septem'r 26, 1833	Do.
	Bank of America, New York	Septem'r 26, 1833	Do.
	Mechanics' Bank, New York	Septem'r 26, 1833	Do.
	Girard Bank, Philadelphia	Septem'r 26, 1833 And again August 18, 1834	Do.
	Union Bank of Maryland	Septem'r 26, 1833	Do.
		Between Oct. 1, and Dec. 31, 1833.	
	Maine Bank, Portland	October 9, 1833	Do.
	Commercial Bank, Portsmouth	October 9, 1833	Do.
	Bank of Burlington	October 28, 1833	Do.
	Farmers and Mechanics' Bank, Hartford	Novem'r 4, 1833	Do.
	Arcade Bank, Providence	Novem'r 4, 1833	Do.
	Bank of the Metropolis	October 9, 1833	Do.
	Planters' Bank, Savannah	October 9, 1833	Do.
	Branch Bank of Alabama, Mobile	October 9, 1833	Do.
	Union Bank of Louisiana, New Orleans	Novem'r 4, 1833	Do.
	Commercial Bank, New Orleans	Novem'r 4, 1833	Do.
	Franklin Bank, Cincinnati	October 9, 1833	Do.
	Union Bank, Nashville, Tennessee	October 9, 1833	Do.
	Planters' Bank of Mississippi, Natchez	October 9, 1833	Do.
		Subsequent to 1st January, 1834.	
	Moyamensing Bank, Philadelphia	July 22, 1834	Do.
	Louisville Savings Institution	August 13, 1834	Do.
	Branch Bank of Mississippi, Columbus	Februa'y 12, 1834	Do.
	Farmers and Mechanics' Bank of Michigan	July 7, 1834	Do.
	Commercial Bank, Cincinnati	August 18, 1834	Do.
	Merchants and Manufacturers' Bank, Pittsburg	October 6, 1834	Do.
		SELECTED.	
3d.	Bank of Virginia, Richmond	October 9, 1833 and July 15, 1834.	For deposite and payment only.
	Branch Bank of Virginia, Norfolk	July 9, 1833	Do.
	Bank of Augusta, Georgia	August 20, 1834	Do.

Appendix 2: The List of All Pets after the Deposit Act of June 23rd, 1836

E 1.

STATEMENT of the condition of the several Deposite Banks, accord the 1st of

STATES.	Name and location of deposite banks.	Date.
MAINE	Maine Bank, at Portland	Nov. 7
	Bank of Cumberland, at Portland	5
	Granite Bank, at Augusta	Oct. 31
	People's Bank, at Bangor	Nov. 15
	York Bank, at Saco	19
NEW HAMPSHIRE	Commercial Bank, at Portsmouth	7
	Merrimack County Bank, at Concord	1
	Portsmouth Bank, at Portsmouth	5
	New Hampshire Bank, at Portsmouth	Oct. 29
	Piscataqua Bank, at Portsmouth	31
	Mechanics' Bank, at Concord	31
VERMONT	Bank of Burlington	27
	Bank of Windsor	31
MASSACHUSETTS	Merchants' Bank, at Boston	31
	Hancock Bank, at Boston	31
	Fulton Bank, at Boston	Nov. 1
	Franklin Bank, at Boston	Oct. 31
	Commonwealth Bank, at Boston	Nov. 1
	Phœnix Bank, at Charlestown	Oct. 31
CONNECTICUT	Farmers and Mechanics' Bank, at Hartford	31
	Mechanics' Bank, at New Haven	Nov. 1
	Quinebang Bank, at Norwich	1
RHODE ISLAND	Rhode Island Union Bank, at Newport	Oct. 29
	Arcade Bank, at Providence	31
NEW YORK	Lafayette Bank, at New York	24
	Seventh Ward Bank, at New York	31
	Manhattan Company, at New York	29
	Bank of America, at New York	31
	Leather Manufacturers' Bank, at New York	31
	Mechanics and Farmers' Bank, at Albany, N. Y.	31
	Mechanics' Bank, at New York	Nov. 1
	Phœnix Bank, at New York	1
	Merchants' Bank, at New York	4
	New York Dry Dock Company, at New York	Oct. 31
	Tradesmen's Bank, at New York	31
	Union Bank, at New York	Nov. 2
	Brooklyn Bank, at Brooklyn, New York	1
	Bank of Troy, at Troy, New York	Oct. 29
	Merchants' Exchange Bank, at New York	Nov. 1
	National Bank, at New York	1
	Commercial Bank, at Buffalo, New York	1
NEW JERSEY	Trenton Banking Company, at Trenton	1
	State Bank, at Newark	3
	State Bank, at Elizabeth, (Elizabethtown)	Oct. 31
PENNSYLVANIA	Girard Bank, at Philadelphia	Nov. 5
	Moyamensing Bank, at Philadelphia	1
	Merchants and Manufacturers' Bank, at Pittsburg	Oct. 26
DELAWARE	Bank of Wilmington and Brandywine, at Wilmington	31
	Bank of Delaware, at Wilmington	Nov. 1
MARYLAND	Franklin Bank of Baltimore	Oct. 31
	Union Bank of Maryland, Baltimore	31

STATEMENT

STATES.	Name and location of deposite banks.	Date.
DISTRICT OF COLUMBIA	Bank of the Metropolis, at Washington	Nov. 1
VIRGINIA	Bank of Virginia and branches	1
	Farmers' Bank of Virginia, Richmond	1
NORTH CAROLINA	Bank of the State of North Carolina	Oct. 22
SOUTH CAROLINA	Planters and Mechanics' Bank of South Carolina	28
	Bank of Charleston	25
GEORGIA	Bank of Augusta	Nov. 1
	Planters' Bank of the State of Georgia	1
	Insurance Bank of Columbus	Oct. 3
ALABAMA	Branch of the Bank of the State of, at Mobile	Nov. 7
MISSISSIPPI	Planters' Bank of the State of, at Natchez	Oct. 13
	Agricultural Bank of Mississippi	Nov. 1
LOUISIANA	Commercial Bank of New Orleans	Oct. 29
	Union Bank of Louisiana, at New Orleans	31
TENNESSEE	Union Bank of the State of Ten. and branches	28
	Planters' Bank of Tennessee and branches	Nov. 1
KENTUCKY	Bank of Kentucky, at Louisville	Oct. 31
	Louisville Savings Institution, Louisville	Nov. 1
	Northern Bank of Kentucky, Lexington	Oct. 31
	Branch of ditto, at Louisville	29
	Branch of ditto, at Paris, Kentucky	27
	Branch of ditto, at Richmond, Kentucky	28
	Branch of ditto, at Covington, Kentucky	29
OHIO	Franklin Bank of Columbus	Nov. 2
	Clinton Bank of Columbus	Oct. 29
	Franklin Bank of Cincinnati	29
	Commercial Bank of Cincinnati	29
	Agency of ditto, at St. Louis, Missouri	29
	Commercial Bank of Lake Erie, at Cleaveland	Nov. 1
	Bank of Chillicothe	Oct. 31
	Bank of Cleaveland	Nov. 3
INDIANA	State Bank of Indiana	Oct. 31
	Branch of ditto, at Madison	15
	Branch of ditto, at Lawrenceburg	31
ILLINOIS	Bank of Illinois, at Shawneetown	Nov. 12
MICHIGAN	Bank of the River Raisin	Oct. 29
	Bank of Michigan, at Detroit	Nov. 1
	Farmers and Mechanics' Bank of Michigan	1