

## How Were the Federal Reserve Bank Locations Selected?

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(Selection of Reserve Bank Locations)

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## ABSTRACT

Political interference was alleged to influence the Reserve Board Organization Committee for the selection of at least five of the 12 Federal Reserve cities in April 1914: Atlanta, Cleveland, Dallas, Kansas City and Richmond. H. Parker Willis, a committee advisor, alleged that politics interfered with the selections and some recent financial histories rely upon his accusation. This essay examines the committee's selection decision. Probability choice models are estimated for the 37 cities requesting consideration for selection on proxies obtained from ex-post statements by parties involved in the selection. The results confirm that reserve cities were selected systematically upon information claimed by the committee. Proxies for political and personal influence fail to improve the predictive ability of the estimated models.

Today, an examination of the map of the Federal Reserve System shows two Federal Reserve banks in Missouri, many Reserve banks located along the eastern coast, and one Reserve bank on the West coast. The map drawn at the opening of the System in 1914 appears little different today. Given the institutional importance of the Federal Reserve System that the System fails to adjust locations to changes in population or production is an interesting observation.

How did the Reserve Board Organization Committee decide to locate Reserve banks in 1914? The committee could have established some principles on which to derive selection guidelines. Instead, politics was alleged to influence the selection process. For instance, Congressman Sloan condemned the committee's decision:

“... the requests of banks have not controlled. I have cited instances here where the size of the cities did not control. I am talking about a case where the lines of transportation and the course of business did not control. I have cited instances where the area does not control, instances where population did not control, where banking preferences did not control. *I do not know a single basis or rule that controlled in one case which has controlled in another.* The gentleman (Carter Glass) will pardon us if we mildly say that politics must have had something to do with it, that there may have been favoritism shown. This is worse than politics, because politics carries with it party responsibility, while favoritism never appears twice the same way and no responsibility attaches” (Italics added, *Congressional Record* 1914, 51: 6441).

To Sloan, the decisions of the committee were the result of not systematic rules but arbitrary choices of politically favored cities and regions.

H. Parker Willis, the selection committee's hired academic expert, concurred that politics played a role in the selection of locations in his massive 1923 history on the founding of the Federal Reserve System (562-563). As a consequence, some recent financial histories agree that politics was a factor of selection. For example, West observes that key persons involved in the legislation and the selection decisions had the

position as a basis to influence some of the selections. West hypothesizes that such influences favored the selection of some cities in favor of others (1977, 210-211). Primm lists as relevant factors, “some banking reality and a lot of politics” (1989, 44-45).

However, new work suggests objective bases for the selection of some of the controversial locations are evident as well as questions Willis’ motivation for his 1923 allegation. Odell and Weiman (1998) find that committee members likely evaluated the future prospects of cities as banking centers and recognized that the inland distribution centers were ascendant to older seaports. Recent research on the 1914 districting and location decisions reveals Willis wrote during the winter of 1915 that he had recommended that the committee select nine or ten, and, in contradiction again, all 12 locations in his unpublished 1914 “Report on Districting.” Willis claimed that eight or nine selections would have been preferable in 1923 (Hammes 2001, endnote 13).

Which factors perform better at predicting selection: those factors defined by Willis in his published history, political characteristics, or instead those by the committee in its published public documents? The effects of political characteristics in the two frameworks are included and considered. If politics was important, then a model of political variables or one that incorporates political variables should perform better than the non-political specification. The evidence to be presented finds that the committee selected the correct cities on economic factors and did not behave politically. Political characteristics of these cities are considered and they fail to improve the predicted results. The conclusion drawn here is similar to that of Odell and Weiman (1998): the committee did not behave in a partisan manner.

## THE SECTION AND CONTROVERSY OF THE RESERVE BANK LOCATIONS

The Reserve Board Organization Committee organized the Federal Reserve System during 1914 after President Wilson signed the Federal Reserve Act on December 23, 1913. The committee consisted of the Secretary of the Treasury, William G. McAdoo, the Secretary of Agriculture, David Houston, and the Comptroller of the Currency, John Skelton Williams. The Federal Reserve Act provided for the selection of eight to 12 cities for the locations of regional reserve banks to be administered by the Federal Reserve Board located at Washington D.C. 37 cities requested consideration as a location for a Reserve bank by the committee. This paper does not address the issue of the correct number of reserve cities, perhaps a political decision. The committee decided to select all 12 districts and locations (Houston 1926, 1:108).

On April 2, 1914, the Reserve Board Organization Committee announced that Boston, New York City, Philadelphia, Cleveland, Richmond, Atlanta, Chicago, St. Louis, Minneapolis, Kansas City, Dallas and San Francisco were the locations for a Federal Reserve Bank. A short statement that accompanied the committee's decision implied that the relevant factors had been considered in determining the best location for Reserve cities without explanation. The selections of Cleveland instead of Cincinnati or Pittsburgh, Richmond and not Baltimore or Washington D. C., Atlanta and Dallas rather than New Orleans, and Kansas City instead of Denver or Omaha brought criticism and charges of political interference by the Congress and press, among others (*Congressional Record* 1914, 51: 6227-6228, Primm 1989, 46-48, Willis 1923, 587). The committee issued an explanatory statement on April 10, 1914, but the selection decision continued to be tainted with charges of politics.

What regions or cities should have received Federal Reserve Banks? In his 1914 “Report,” Willis recommended that if the committee were not to locate a bank within Texas, the committee should select Atlanta, Boston, Chicago, Cincinnati, Cleveland, Kansas City, Missouri, Minneapolis, New York, Portland, Oregon, Philadelphia, and St. Louis (Hammes 2001). Rather than select Portland or Cincinnati, the committee placed Reserve banks at Dallas in a Texas district and at Richmond.

#### GROUPS OF ATTRIBUTES AFFECTING SELECTION OF CITIES

A baseline sample consists of the 37 cities that requested consideration by the committee for the location of a Federal Reserve Bank. A reduced sample of 21 cities, the considered sample, evaluates cities considered on the margin, or the cities in the baseline sample less obvious choices (Boston, Chicago, Minneapolis, New York, Philadelphia, San Francisco and St. Louis) and obvious rejects (cities that were not among the 29 suggested cities as compiled from the Comptroller’s poll of the 7471 National banks). In the reduced sample, the committee chooses five cities from these remaining 21.

Groups of attributes for economic, development, and political factors are used to estimate the odds of selection via maximum likelihood estimation of the logistic function and obtain predicted probabilities of selection. Many of the variables are measured at the state level since city level data are difficult to locate for this time period; however, the organization committee had stated its intent to closely follow state lines for defining the limits of the reserve districts (Reserve Board April 2, 1914, 135).

**Willis proxies.** Willis prepared a preliminary report for the committee in which he debated several principles on which recommended factors could be provided (1923, 585). Willis listed five categories for successful reserve cities and their proposed districts:

present and prospective commercial importance, financial importance, business habits, railway facilities, and total bank capital (566). Willis believed that the most important characteristic in the selection of a reserve city was the quality of communication and rail facilities (Willis 1937, 93-4).

City population and the proportion of the state population that is urban suggest commercial importance. Urban areas also relied upon on bank checks more than currency. Larger city populations in 1910, and the proportion of a city's home state population that was urban in 1910, are expected to increase the odds of selection.

Banking variables used include the deposits and number of National banks in the city on March 4, 1914, and indicated the local use and thus support of the National Banks, the banks that would be required to join the system. With respect to predicted selection, the greater the value of deposits is expected to increase the city's probability of selection. Greater numbers of National banks at a location is expected to have a positive impact on the probability of selection.

Federal Reserve Banks required rail and telegraphic services to communicate with the member banks within its district, other reserve banks and the Federal Reserve Board, as well as to receive clearing services and currency shipments. The ratio of total railroad mileage to the product of state population and state land area in the city's home state, RAIL, is expected to have a positive impact for the odds of selection.

In addition, an economic variable for banking market structure controls for states that permitted state incorporated banks to open branch banks. State chartered banks permitted to open branches might be preferred to National charters by local bank organizers, so fewer banks might organize as National Banks in those states. As a result,

states that permitted branching would have less representation, support and investment in the National Banking System. A dummy variable takes the value one if the home state of the city permitted branch banking to some extent, and zero if otherwise as recorded in Samuel Weldon's 1909 summary of state banking laws (Bradford 1940, 13). The committee is expected to select cities in branch banking states less often.

**Political influence proxies.** A set of political attributes controls for direct influence on and by the selection committee. If committee members behaved with favoritism for their home states there would be a positive impact on the estimated odds of selection. Houston went to Washington from his position at Washington University in St. Louis, McAdoo was raised in Georgia, and Williams was a Richmond banker and capitalist. A dummy variable takes the value one if the city's home state is Georgia, Missouri or Virginia, and the value zero if otherwise. Overall political power of the Democrats within particular states may also have affected the decision. If politics mattered, the numbers of Democratic Representatives and Senators from the city's home state and are expected to have a positive impact on the odds of selection.

**Committee proxies.** When announcing its selections, the selection committee stressed that it had considered the characteristics of total bank capital, business habits, railway facilities, and population (Reserve Board April 2, 1914, 135). In defending its controversial selections, the committee compared recent development of a location's National banking infrastructure. In addition, the committee emphasized that the polling results of 7471 National banks preferences for Reserve bank locations (Reserve Board April 10, 1914, 147-153).

As in the Willis specification, city population in 1910, the proportion of the home state population classified as urban in 1910, and the railway ratio are expected to impact positively the odds of selection. Banking attributes measure the average annual rate of change between the fall seasons of 1904 and 1914 for individual deposits and capital. Capital is measured as paid-in capital, surplus and profit and loss. These measures are expected to have a positive impact on the estimated odds of selection. Another attribute the committee emphasized was support for locations of reserve banks as provided by National banks. The number of votes a city received as the preferred first choice for a Reserve bank is expected to increase the probability the city is selected.

#### ESTIMATION OF PROBABILITY CHOICE MODELS AND PREDICTION OF SELECTIONS

Estimated logit models are evaluated by their ability to predict the actual outcomes. Abbreviated results are presented in Tables 1 and 2. As usual for logit estimations, predicted probabilities of selection that exceed 0.5 are predicted selections, and those less than 0.5 are predicted non-selections. The correct outcomes are the predicted actual selections and the predicted actual non-selections. Incorrect outcomes are false predicted selections and non-selections not actually observed. False predicted selections are those cities predicted by the model for selection but not actually selected. False predicted non-selections are predicted non-selections although actual selections.

For the baseline sample, the estimated Willis model, Table 1 (1), is not statistically significant and correctly predicts the selection for eight of 12 of the reserve cities. When the sample is reduced to 21 cities, Table 2 (5), the Willis model lacks statistical significance again.

The political models estimated perform most poorly among all the models estimated; however, the estimated models of the full and reduced samples, Tables 1 (2) and 2 (6), are weakly statistically significant at the 10 percent level. Overall, Democratic Congressional representation and possible selection committee bias correctly predict the selection of eight of 12 cities in the baseline sample and two of five in the reduced sample. Among the controversial selections, Dallas is not predicted for selection in the baseline sample, and Atlanta, Cleveland and Richmond are not predicted selections in the reduced sample. Democratic representation may influence selection overall, but performs poorly as a predictor if considering the cities on the margin for selection.

When models for selection are estimated on the Willis and political variables jointly for the full and reduced samples, Tables 1 (3) and 2 (7), the estimations are significant at least at the five percent level, and the directions are all as expected. Atlanta, Kansas City and Richmond fail to be predicted as selections in the baseline sample, but only Atlanta is not a predicted selection in the reduced sample. This model performs better in the reduced sample among the controversial selections than either the Willis or political models alone.

By contrast, the attributes of the selection committee models estimated, Tables 1 (4) and 2 (8), are individually and jointly significant at least at the 10 percent level or better. All the cities selected are correctly predicted for selection in the baseline sample and only Cleveland is not predicted for selection in the reduced sample. Overall, the results confirm the selection committee's contention that it based selection on systematic guidelines and not on arbitrary judgments. The greatest difficulty with this interpretation is that committee statements regarding selection criteria are available only *ex-post* and

made public in an environment of political acrimony. Yet, the committee's systematic rules do explain jointly the entire selection decision based upon the statements without relying upon political factors.

#### CONCLUDING REMARKS

The factors in the committee's *ex-post* published documents best predict the probabilities of selection<sup>1</sup>. Political representation in the Congress and other influence proxies are poor predictors of selection. Factors suggested by the committee's hired expert appear ignored by the selection committee, an observation that Willis concurred with in his history of the establishment of the Federal Reserve System (1923). Increased private investments in the National banking system, or greater local reliance in the National banking infrastructure in the immediate decade prior to the establishment of the Federal Reserve System was rewarded by the selection committee. The selection committee is shown to have behaved impartially and not arbitrarily.

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<sup>1</sup> The explanatory power of estimated models is less when the political proxies are included with the committee's variables. For the full sample, Dallas is not a predicted selection when controlling for home states of committee members, and Richmond is not a predicted selection when controlling for the number of Democratic Representatives. Controlling for Democratic Senators, Cleveland again is not a predicted selection in the reduced considered sample.

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TABLE 1  
Estimated Logistic Models, Full Sample

	Willis (1)	Political (2)	Willis & Political (3)	Committee (4)
Wald	9.99	7.72 <sup>c</sup>	17.22 <sup>b</sup>	16.04 <sup>b</sup>
Correct Selections	8/12	8/12	8/12	12/12
Incorrectly Predicted as Not Selected	Atlanta Dallas Kansas City Richmond	Boston Dallas Minneapolis San Francisco	Atlanta Kansas City Minneapolis Richmond	
Incorrectly Predicted as Selected	Pittsburgh	Cincinnati Columbus Pittsburgh Savannah	Birmingham Pittsburgh	Pittsburgh Portland
Correctly Classified	86.49%	78.38%	83.78%	94.59%

Note: <sup>a</sup> indicates statistical significance at least at the 1% level; <sup>b</sup>, at the 5% level; and <sup>c</sup>, at the 10% level.

TABLE 2  
Estimated Logistic Models, Considered Sample

	Willis (5)	Political (6)	Willis & Political (7)	Committee (8)
Wald	4.48	5.55 <sup>c</sup>	21.15 <sup>a</sup>	12.66 <sup>b</sup>
Correct Selections	2/5	2/5	4/5	4/5
Incorrectly Predicted as Not Selected	Atlanta Kansas City Richmond	Atlanta Cleveland Richmond	Atlanta	Cleveland
Incorrectly Predicted as Selected	Louisville	Fort Worth Houston	Houston New Orleans	Baltimore
Correctly Classified	80.95%	76.19%	85.71%	90.48%

Note: See Table 1.