

Personalty interests at the Constitutional Convention: new tests of the Beard thesis

Jac C. Heckelman · Keith L. Dougherty

Received: 30 January 2009 / Accepted: 29 April 2009 / Published online: 20 May 2009
© Springer-Verlag 2009

Abstract Charles Beard ([1913] 2004) argued that the U.S. Constitution was created to advance the interests of people who owned personalty, particularly those at the Constitutional Convention. Because delegate votes on individual clauses at the Constitutional Convention were not publicly recorded, prior empirical analyses have been limited to inferred votes on a specific set of unrelated clauses. We extend this inquiry by inferring votes related to currency and debt issues which Beard put forth as the prime issues for those who owned personalty. Our analysis on these votes generates little support for a narrow version of the Beard thesis, which states that all personalty groups voted in a unified coalition at the Convention and supported the Constitution. Our analysis provides some support, however, for a broader interpretation that personalty and realty interests affected delegate voting behavior at the margin.

Keywords US Constitution · Constitutional Convention · Money creation · Debt · Fiscal federalism

JEL Classification D7 · H1 · H4

J. C. Heckelman (✉)
Department of Economics, Wake Forest University, 110 Carswell Hall, Winston-Salem,
NC 27109, USA
e-mail: heckeljc@wfu.edu

K. L. Dougherty
Department of Political Science, Baldwin Hall, University of Georgia, Athens, GA 30602, USA
e-mail: dougherk@uga.edu

1 Introduction

Charles Beard's *An Economic Interpretation of the Constitution* ([1913] 2004) is perhaps the single most controversial, yet seminal, work on the Constitutional Convention. Rather than merely celebrating the framers, Beard critically studied their motivation. He posited a radical view which scholars continue to debate to this day, almost a full century later (Barrow 2000; McGuire 2003; Gibson 2007). In fact, according to one noted political historian, "Beard's book is the most important work ever written on the American founding" (Gibson 2007, p. 15).

The central tenant of Beard's thesis is that the movement for the Constitution was pushed through by men who "derived economic advantage from the establishment of the new system" (Beard [1913] 2004, p. 324). This occurred because "large and important groups of economic interests were adversely affected by the system of government under the Articles of Confederation, namely those of public securities, shipping, and manufacturing, money at interest; in short capital as opposed to land" (Ibid., p. 63). Beard identified the former as people with "personalty" interests (generally, those who owned personal property such as public securities), and the latter as people with "realty" interests (generally, those who owned real estate). According to Beard, personalty interests pushed for a new constitution, took advantage of property qualifications to get elected to the Philadelphia Convention, dominated the Convention itself, and escorted the Constitution through the ratification process. We focus exclusively on the Constitutional Convention because it is central to his thesis, and has received the most attention in the empirical literature. Beard argued that personalty interests comprised a large majority of the delegates at the Convention and subsequently created a new document reflective of their collective interests.

Although much has been written about the Beard thesis, few empirical tests of his thesis have been undertaken. One impediment to testing his claims about the Convention stems from the lack of data on delegate votes. Because delegates voted in state blocs and wanted to maintain secrecy, the Convention journal and Madison's notes recorded only the vote of the state blocs. The convention journal did not record the votes of individual delegates and Madison's notes recorded delegate votes only on rare occasions. Therefore, matching delegate characteristics to specific votes requires making inferences on how the delegates voted.

We test two versions of the Beard thesis as it relates to the Constitutional Convention, which we refer to as the narrow and broad versions. The narrow version takes Beard's argument as originally presented: those who primarily owned assets in securities and other liquid investments (personalty interests) pushed for a new constitution and often voted together at the Convention. Those opposed primarily owned assets in real estate (realty interests). The broad version, originally put forth by McGuire and Ohsfeldt (1984), re-interprets Beard's claim using a modern economic approach. It posits that the personal economic interests of the delegates should affect voting behavior, at the margin, when other effects on delegate behavior are controlled. Only the broad version has been subject to rigorous testing (McGuire and Ohsfeldt 1984, 1986; McGuire 2003; Heckelman and

Dougherty 2007). However, these tests have been limited to the same set of 16 diverse clauses, many of which appear unconnected to Beard's thesis.

Beard claimed that his view of the Convention applied to issues directly related to personalty interests and the overall adoption of the Constitution. As such, we first recover delegate votes on four clauses directly related to paper currency and the payment of federal debts—clauses that Beard himself (p. 32) described as critical for those who pushed for the Constitution. We use the votes on these four clauses, as well as the vote on the final passage of the Constitution, to determine whether delegates voted in coalitions as described by the narrow thesis. We then test the broad version using delegate votes on these four clauses.

We find little support for the narrow version. Based on the four clauses directly related to personalty interests, our inferences suggest that delegates who Beard classified as owning personalty did not vote significantly different from those who did not own personalty. However, when viewed in isolation, certain sub-categories of the personalty group were indeed more likely to vote in favor of the pro-personalty clauses. On the vote for final passage of the Constitution, again delegates classified as owning any form of personalty did not vote significantly different than delegates who did not own any personalty. Breaking down the personalty group into its separate categories further failed to reveal the patterns to which Beard alluded.

We find greater support for the broad thesis. Regression analysis suggests that owning public securities had a positive and significant effect on voting in favor of the clauses Beard identified as promoting personalty interests. In addition, we found delegates who owned agricultural land were less likely to support these votes. Both results are consistent with the broad version of Beard's thesis. We find no support for the argument that constituency interests influenced (Mayhew 1974; Rakove 1996; McGuire 2003) these votes.

Our results cast further doubt on the traditional view held by various historians that delegates voted impartially at the Constitutional Convention (Collier 1986; Wood 1987; Bailyn 1992). Rather, our estimates suggest that on the key votes related to money and debt issues delegates were indeed influenced by their own personal economic considerations. These findings are consistent with many of the conclusions reached by McGuire and Ohsfeldt (1986, 1997), McGuire (2003), and Heckelman and Dougherty (2007) who analyzed the same set of 16 disparate clauses. Furthermore, the lack of significant state characteristics in our regression analysis supports Heckelman and Dougherty's (2007) finding that state constituency interests may have been less important than previously claimed (McGuire and Ohsfeldt 1986, 1997; McGuire 2003).

2 Background

The Constitutional Convention met in Philadelphia from 25 May to 17 Sep 1787. Fifty-five delegates attended the Convention, although the daily numbers were considerably fewer. William Houston of New Jersey and George Wythe of Virginia fell sick after the first week and left the Convention. Rhode Island never sent delegates to the Convention and two Anti-Federalists from New York, John Lansing

and Robert Yates, left on July 10 before delegates from New Hampshire could arrive. The departure of Lansing and Yates prevented New York from voting for the rest of the Convention and limited the Convention to no more than 11 states at any one time.¹

All floor decisions were made using a forward agenda with votes taken in state blocs. As a formal rule, each state's vote was determined by a majority of its delegation. A majority of the state votes then determined whether a motion carried. As mentioned previously, the secretary of the Convention recorded the vote of each state, but he did not record delegate votes. Madison, and other delegates, took notes of the debates, but they rarely recorded the votes of individual delegates.

The Convention produced 569 numbered roll call votes, which were recorded in the journal. An additional 217 unnumbered motions were considered at the Convention, which appeared either in the journal, Madison's notes, or in both locations. Many of the latter motions were substantive but had little or no debate. Surprisingly, few of these motions were alluded to by Beard as critical to the interests of those who owned personalty (described in detail below).

2.1 Beard's thesis

Prior to Beard's work, most studies of the Constitutional Convention argued that the framers who attended the Convention were disinterested statesmen who tried to enact various principles of democracy. Beard challenged this view by arguing that particular types of property largely affected how delegates voted.²

The differences between the narrow and broad versions of Beard's thesis are important. The narrow version requires us to reflect on which interest (personalty or realty) more clearly represents each delegate, in order to clearly categorize them in one of two groups. The broad version allows the two interests to compete. For example, owning both capital and land can simultaneously affect the same delegate in opposite directions under the broad version.³ One clear advantage of the broad version is that it does not require scholars to force the delegates into oversimplified categories. Controlling for certain characteristics allows more precise inferences to be made regarding the influence of other characteristics.

Both versions should be strongest when they are applied to votes that Beard himself identified as particularly important to personalty interests. Beard claimed delegates who primarily owned personalty "turned to the idea of a national

¹ The authoritative source on the Constitutional Convention is Max Farrand's *Records of the Federal Convention of 1787* (1966). This four volume set contains a complete record of the Convention, including a copy of the official journal, James Madison's notes on the debates, the notes of other delegates, personal correspondences and other manuscripts related to the Convention, and Farrand's assessment of daily attendance, among other items. See Farrand (1966, vol. 3, pp. 586–590) for more precise claims about when various delegates attended.

² Controversy remains about how to properly interpret Beard's thesis. We do not directly address this point, but instead refer readers to Gibson (2007), chap. 1, who presents an excellent discussion on the seemingly contradictory statements in Beard's analysis and the various ways scholars have interpreted Beard's arguments.

³ Indeed, in a new introduction to the 1935 reprinted edition, which was otherwise left unchanged, Beard specifically acknowledged he should have considered this issue in the original text (pp. xv–xvi).

government so constructed as to prevent laws impairing the obligation of contract, emitting paper money, and otherwise benefitting debtors” (Beard [1913] 2004, p. 32).⁴ Beard argued that these clauses were critical to the personality movement. The clause preventing state legislatures from impairing the obligation of contract was partly tied to the issue of making paper currency a legal tender, which debtors allegedly requested in order to make re-payments in a depreciated form (Farrand 1966, vol. 3, p. 548).

Clauses related to the emission of paper currency were at the center of the financial debates at the time. Debtors wanted financial relief by allowing their debts to be paid in paper currency, which they believed devalued more quickly than specie. Creditors, on the other hand, wanted payments in the more valued coin because it tended to hold its value and would not reduce obligations through large rates of inflation.

In addition, Beard claimed that personality interests, such as delegates who owned federal securities, wanted protection from laws that would absolve federal debts. They wanted the federal government to honor its previous debts, and they preferred that states pay their debts to the federal government in specie in order to assure repayment of their securities.

2.2 Critics and supporters

Beard’s thesis dominated historical interpretations of the Constitutional Convention until the mid-twentieth century, when historians Brown (1956) and McDonald (1958) wrote detailed critiques. Brown argued that wealthy people were not staunch supporters of the Constitution and that the framers were much more democratic than Beard had portrayed. McDonald went much further. He gathered quantitative measures of the economic interests of the delegates as well as their demographic characteristics. He also inferred delegate votes for 16 separate roll calls, but only one of these roll calls were directly related to the personality clauses elaborated upon by Beard (vote 387 to prevent the states from issuing paper currency). Based on the overall inferred voting patterns, McDonald concluded that “the facts did not substantiate (Beard’s) assumptions” (McDonald 1958, p. 400). Although McDonald did not use any inferential statistics, this resolved the issue for many historians.

More systematic analyses were not conducted until three decades later, when McGuire and Ohsfeldt (1984, 1986, 1997) and McGuire (1988, 2003) developed the broad version of the Beard thesis. They applied econometric techniques to the same set of motions originally assessed by McDonald. However, rather than assume (as Beard initially did) that delegates voted in two economic coalitions, McGuire and Ohsfeldt recast the Beard thesis as a study of whether economic interests played a broader role in voting to adopt various institutions of the new government. They found that, at the margin, the personal economic interests of the delegates were significant determinants for explaining votes when other factors such as age, ancestry, and state interests were controlled.

⁴ Also see Beard ([1913] 2004, pp. 169–183).

Interestingly, McGuire and Ohsfeldt arrive at very different conclusions than McDonald despite analyzing the same set of motions and largely relying on McDonald's vote inferences. However, they also supplemented the vote data in two key manners. McDonald was not able to assign votes to any of the eight Pennsylvania delegates and surmised that they probably all voted the same.⁵ McGuire and Ohsfeldt (1984, 1986) and McGuire (1988, 2003) coded each of the Pennsylvania delegates the same as their state based on McDonald's conjecture. They also imputed the votes of delegates not in attendance using additional assumptions. As shown by Heckelman and Dougherty (2007), both McDonald's initial inferences and McGuire and Ohsfeldt's additional imputations may have biased the results in favor of state factors and away from personal delegate factors. By limiting the sample to actual voters, and making new inferences on the original data, Heckelman and Dougherty (2007) found that the importance of delegate economic interests increased and the importance of state interests decreased.

The fact that all of these studies utilize the same set of 16 votes is a serious limitation (Gibson 2007).⁶ This is a particular problem because the 16 votes selected by McDonald do not include some of the most important roll calls which directly affected those who owned personalty. In addition, the 16 votes contain issues such as votes on quorum requirements and a judicial veto, which do not seem to have any direct connection to personalty interests.⁷ These issues are more akin to what Jillson and Eubanks (1984) refer to as the 'higher-order' decisions made at the Convention pertaining to the overall institutional structure, rather than the 'lower-order' rules that have a much clearer impact on economic interests. If McDonald had selected different votes, the findings of an entire line of research might have been quite different.

Our goal is to supplement prior analyses using motions Beard ([1913] 2004, p. 32) suggested were most important to the personalty interests,⁸ namely a strong national government that would pay back its debts, stop the emission of paper

⁵ Heckelman and Dougherty (2007) were able to infer votes for many of the Pennsylvania delegates individually and found they were not always in agreement with each other. Dougherty and Heckelman (2008) also revealed some disagreement among these delegates on votes related to slavery issues. As shown in Table 2 below, we also found some disagreement among the Pennsylvania delegates on the votes analyzed here.

⁶ The only econometric study on delegate votes which considers an alternate sample of voting issues is Dougherty and Heckelman (2008). They analyze nine votes related to slavery to determine how likely a delegate was to support slave-related institutions. They found that personal delegate factors were more important in explaining voting behavior for measures of apportionment than for regulation of the slave trade. Thus the importance of personal interests does not appear to be consistent even across votes of a similar nature. Moreover, their study greatly deviates from the original Beard thesis because personalty and realty interests are not central to their analysis.

⁷ McGuire presents a concise description of the issues pertaining to each of the 16 votes in several of his studies, the most recent of which is McGuire (2003), p. 57.

⁸ Also see Wittman's (1995, p. 148) concise description of the primary issues that comprise Beard's thesis.

currency,⁹ and prohibit the states from impairing contracts. The last of these cannot be directly analyzed because the clause which prohibits states from impairing the obligation of contract was never voted upon separately.¹⁰ Hence, we analyze four votes: (1) vote 304 striking a clause that explicitly allowed the federal government to print currency; (2) vote 365 requiring the federal government to honor its previous debts; (3) vote 387 prohibiting the states from issuing paper currency; and (4) vote 390 requiring all federal debts to be paid in specie.¹¹ These four clauses are detailed in Table 1.

Beard argued that passage of these clauses was meant to advance the position of those who held public securities, those who lent money at interest, and those who were merchants and shippers. At other times, he extended these arguments to include western land speculators and slave owners.

3 Inferring delegate votes

Because delegate votes were not recorded at the Convention, we need to infer delegate votes for each of the four clauses. This is done in three steps, similar to the steps taken by McDonald (1958). However, there is an important difference in our starting point. McDonald appears to have assumed that a delegate voted the same as the vote recorded for the delegate's state, unless he found evidence to the contrary (Heckelman and Dougherty 2007).¹² We do not assume such defaults. Instead, we infer a vote only when we find evidence to support a particular position and error in favor of no code when we are uncertain.¹³

⁹ During the Revolutionary War, all of the states issued their own paper currencies (known as bills of credit) to help cover wartime expenses, but afterwards only seven states continued to issue bills of credit with three additional states debating the issue at the time of the Constitutional Convention (Grubb 2003). Several of the colonies had issued bills of credit while under British rule. These bills were used to pay taxes and debts to the colonial governments at which point they were retired and destroyed. Additional currency required a legislative act. Starting in 1775, the Continental Congress issued its own bills of credit as well. Its first currency, often referred to as the Continental, was not adequately taxed and soon became worthless (Ferguson 1961). The extent to which colonial/state currencies depreciated has been recently debated (Grubb 2003, 2005; Michener and Wright 2005).

¹⁰ The issue was first raised when King motioned that, in the ordinance for admitting new states, states should be prohibited from interfering with private contracts (Farrand, 2:439-40). However, this proposal was never voted on. Instead a proposal to "prohibit bills of attainder and retrospective laws" was voted on in its place. The clause then appears again in the report of the Committee of Style (Farrand 2: 597). Article 1, Sect. 10, of this report, is voted upon in its entirety on September 14 (Farrand 2: 619), but the state votes are not recorded and the vote is actually over acceptance of a large package of various prohibitions on the states. More importantly, it is not a vote on the issue itself, rather it is a vote on altering the wording of that section. Therefore, a delegate vote on that clause is not indicative of whether the delegate supported or opposed prohibiting the states from impairing contracts.

¹¹ Among those votes, only vote 387 has been previously analyzed by McDonald, and subsequently by McGuire and Ohsfeldt, and Heckelman and Dougherty. Our inference on this vote is taken from Heckelman and Dougherty (2007). For consistency, the other votes are inferred using the same methodology. Our method of inference is explained in detail in the next section.

¹² The one exception is for delegates from Pennsylvania for whom McDonald made no inferences. Instead, he simply used the vote recorded for Pennsylvania as a point of comparison.

¹³ In the absence of any evidence to the contrary, we assume no delegate abstained from voting when Farrand's (1966, vol. 3, pp. 586-590) records indicate they were present.

Table 1 Four votes related to currency and confederation debts

Vote #	Description of issue
304	Proposal by G. Morris to strike “and emit bills on the credit of the United States” from the list of explicit powers of the federal legislature (August 16: 9 yeas, 2 nays). See Article I, Sect. 8 of the Constitution
365	Proposal by Randolph to add “all debts contracted & engagements entered into, by or under the authority of Congress, shall be as valid against the United States under this constitution as under the Confederation” (August 25: 10 yeas, 1 nay). See Article VI, clause 1 of the U.S. Constitution
387	Proposal by Wilson and Sherman to add “nor emit bills of credit” to the list of prohibitions on the states (August 28: 8 yeas, 1 nay, 1 divided). See Article I, Sect. 10, clause 1 of the U.S. Constitution
390	Proposal by Wilson and Sherman to add “nor make anything but gold or silver coin a tender in payments of debts” to the list of prohibitions on the states. The vote refers to state debts owed to the federal government (August 28: 11 yeas, 0 nay). See Article I, Sect. 10, clause 1 of the U.S. Constitution

Vote numbers correspond to those appearing in Farrand (1966). Tallies are for state blocs

In the first step, we compare state level votes with attendance records. By the rules of the Convention, the position of each state (yea, nay, divided) was determined by a simple majority of the state’s delegates (Jillson 1988). Hence, if there were only two delegates from a given state in attendance, we automatically coded both of the delegates from the state as voting the same as their state’s vote. Consider, for example, vote 304 to strike the clause explicitly granting the federal government the power to issue currency (see Table 1). For this vote we coded the delegates from New Hampshire and Georgia as yeas because both New Hampshire and Georgia voted yea and only two delegates from each of these states were in attendance.

In the second step, we assumed delegates voted consistent with their statements and inferred additional votes using delegate statements in debate (Farrand 1966), diaries and written correspondences (Hutson 1987; Kaminski and Saladino 1981), and other sources.¹⁴ Explicit statements about how a delegate voted were inferred from these documents and used in place of a delegate’s vote. For example, we coded George Read of Delaware as a yea on vote 304 because he “thought the words, if not struck out, would be as alarming as the mark of the Beast in Revelations” (Farrand 1966, vol. 2, p. 310). We also assumed that whoever made or seconded a motion voted in favor of the motion.

After completing this step for all remaining delegates on which we could ascertain stated positions, we then went back to attendance records to see if we could infer additional votes based on the state’s vote, given the votes already inferred through speeches and manuscripts. For example, only three of the delegates from New Jersey (William Livingston, David Brearly, and Jonathon Dayton) were in attendance for vote 304. Because we inferred that Livingston had voted yea while

¹⁴ As described in the appendix, limiting the study to primary source information has little effect on the results.

New Jersey was recorded as having voted nay, Brearly and Dayton must have voted nay to ensure that the majority of the delegation voted the same as the vote recorded for their state. Similarly, Pierce Butler of South Carolina seconded the motion so he was coded as a yea, but Charles Pickney gave the power to emit bills as part of the “Pickney plan,” so he was coded as a nay. The remaining two delegates from this state (Charles Cotesworth Pickney and John Rutledge) were then coded yea since South Carolina were recorded as voting yea and there were four delegates in attendance.

From this process we were able to code 30 of the 45 delegates in attendance on vote 304, 28 of the 39 delegates in attendance for vote 387, 28 of 42 for vote 390, and 17 of 44 for vote 365. As shown in Table 2, delegate votes which remain uncoded are treated as missing observations.

On vote 387, the vote previously inferred by McDonald, our vote assignments differ from McDonald for only four cases where we and McDonald both had a code.¹⁵ Recall that McDonald did not infer individual votes for any of the eight Pennsylvania delegates. We were able to infer votes for half of the Pennsylvania delegation. However, we were unable to infer votes for six delegates that McDonald coded. In each of these cases, McDonald assigned the delegate the same vote as recorded for the delegate’s state. Hence, while there is mostly consistency between our inferences and those of McDonald on this particular vote, there are some differences as well.

4 Testing the narrow thesis

To test the narrow thesis, we first determine whether delegate votes matched the patterns anticipated by Beard. Unlike McDonald’s earlier study, we base our conclusions on statistically significant differences between the delegates Beard directly identified as holding personality and delegates who were not on his lists. We also focus on votes that were allegedly critical to those who owned personality. For each of the motions listed in Table 1, a vote in favor can be interpreted as a pro-personality vote.

Beard ([1913] 2004, p. 150) identifies five groups of personality interests: (1) security holders¹⁶; (2) land speculators; (3) money lenders at interest; (4) mercantile, manufacturing, and shipping; and (5) slave owners.¹⁷ He also lists the

¹⁵ According to Farrand’s records, Ellsworth was not in attendance but McDonald coded him as voting yea. We also code Jenifer, McHenry, and Madison, opposite from McDonald.

¹⁶ Beard presents three lists when describing delegates with securities interests: major security holders (at least \$5000), minor securities holders, and those who held “more than a negligible amount of securities.” We chose the major securities holders as our group because Beard listed them first, and presented them in the same style as the other four personality groups. The other two lists of securities interests appear to be de-emphasized.

¹⁷ Beard was somewhat inconsistent in identifying the relevant sub-categories of personality. At one point he mentions only the first four sub-categories and also leaves merchants out of the fourth sub-category (Beard [1913] 2004, 31-51). At another point, he fails to include land speculators as well, leaving only three distinct personality categories (Ibid., 63). In light of these ambiguities, we consider each sub-category separately.

Table 2 State votes and inferred delegate votes

	Vote number					Vote number			
	304	365	387	390		304	365	387	390
New Hampshire	Y	Y	Y	Y	Maryland	N	Y	D	Y
Gilman	y	y	y	y	Carroll	n	?	y	y
Langdon	y	y	y	y	Jenifer	n	?	n	y
Massachusetts	Y	Y	Y	Y	Martin	n	?	n	n
Gerry	y	y	y	y	McHenry	y	?	y	y
Gorham	y	?	n	n	Mercer	n	dnv	dnv	dnv
King	?	y	y	y	Virginia	Y	Y	N	Y
Strong	?	?	dnv	dnv	Blair	y	?	n	y
Connecticut	Y	Y	Y	Y	Madison	y	y	y	y
Ellsworth	y	n	dnv	dnv	Mason	n	n	n	n
Johnson	?	y	y	y	McClurg	dnv	dnv	dnv	dnv
Sherman	y	y	y	y	Randolph	n	y	y	n
New York	DNV	DNV	DNV	DNV	Washington	y	y	n	y
Hamilton	dnv	dnv	dnv	dnv	Wythe	dnv	dnv	dnv	dnv
Lansing	dnv	dnv	dnv	dnv	North Carolina	Y	Y	Y	Y
Yates	dnv	dnv	dnv	dnv	Blount	?	?	?	?
New Jersey	N	Y	DNV	Y	Davie	dnv	dnv	dnv	dnv
Brearley	n	?	dnv	?	Martin	?	dnv	dnv	dnv
Dayton	n	?	dnv	?	Spaight	?	?	?	?
Houston	dnv	dnv	dnv	dnv	Williamson	?	?	y	?
Livingston	y	?	dnv	y	South Carolina	Y	Y	Y	Y
Paterson	dnv	dnv	dnv	dnv	Butler	y	?	y	y
Pennsylvania	Y	N	Y	Y	C. Pinckney	n	y	y	y
Clymer	?	?	?	?	C.C. Pinckney	y	?	y	y
Fitzsimons	?	?	?	?	Rutledge	y	y	?	?
Franklin	n	?	n	n	Georgia	Y	Y	Y	Y
Ingersol	?	?	?	?	Baldwin	y	y	y	y
Mifflin	?	?	?	?	Few	y	y	y	y
G. Morris	y	y	y	y	Houstoun	dnv	dnv	dnv	dnv
R. Morris	y	?	y	?	Pierce	dnv	dnv	dnv	dnv
Wilson	y	y	y	y					
Delaware	Y	Y	Y	Y					
Basset	?	?	?	?					
Bedford	?	?	?	?					
Broom	?	?	?	?					
Dickinson	?	?	y	y					
Read	y	?	y	y					

Votes in upper case are the state votes recorded at the Convention. A majority of delegates in attendance for the state either voted yea (Y), nay (N), or were equally divided (D); or the state did not vote (DNV). Votes in lower cases are individual delegate votes inferred as yeas (y), nays (n), or did not vote (dnv) as described in the text. ? indicates attending delegates for whom we were unable to infer a vote

Table 3 Percentage voting yea by personality category

Personality category	A. Four pro-personalty votes (<i>N</i> = 103)			B. Adopting the Constitution (<i>N</i> = 52)		
	Personalty delegates (%)	Other delegates (%)	<i>p</i> value for difference	Personalty delegates (%)	Other delegates (%)	<i>p</i> value for difference
Any	76.5	80.0	0.85	87.0	83.3	0.80
Securities (major holders)	83.9	68.1	0.05	87.5	85.7	0.85
Land speculation	64.5	81.9	0.05	92.3	84.6	0.48
Money lenders at interest	77.2	76.1	0.89	91.6	82.1	0.31
Mercantile, manufacturing and shipping	95.7	71.3	0.01	90.9	85.3	0.63
Slaves	58.8	85.5	0.002	71.4	92.1	0.05

particular delegates who fall into each sub-category. Collectively, they represent all but seven of the delegates ever present at the Convention. Beard argues that this majority allowed them to dominate the Convention and to create a constitution which protected their interests.

4.1 Personality clauses

As shown in the first row of Table 3, panel A, there is not a statistical difference between the percentage of “personalty” delegates supporting the four personalty votes and the percentage of the remaining delegates supporting the same votes. If anything, personalty delegates were less supportive of these four votes overall than the other delegates, but the distinction is not statistically significant. Thus, the strictest version of the Beard thesis can be rejected.

However, it not clear that all types of personalty should be treated equally. Beard identified security holders, money lenders, and merchants, manufacturing, and shipping as the “principal” groups of personalty interests. In contrast, land speculators and slave owners were not part of that group (Beard [1913] 2004, p. 324). As such, we next consider each of the personalty groups in isolation. These results are presented in the remaining rows of Table 3, panel A.

Significant differences do emerge for four of the five categories (money lenders being the exception). Securities holders and merchants et al. were significantly more likely to support personalty interests on currency and debt, whereas land speculators and slave owners were significantly less likely to support personalty interests on these votes. The contrasting results among these groups largely explain why the combined personalty group is not more likely to vote in favor of pro-personalty clauses.

Yet, there may be reason to consider land speculators and slave owners as having realty interests rather than personalty interests. Land speculators invested in realty¹⁸ and slaves were more prevalent on plantations. Beard's thesis can be restored by recategorizing these latter groups as realty interests rather than personalty interests. As a result, four of the five sub-categories are not only statistically significant, but now reflect the newly hypothesized direction as well. Beard may have been correct in asserting that delegates with personalty interests voted differently than others but perhaps he was less aware of the potential differences across the various personalty groupings (for example, security holders versus money lenders). Moreover, he may have conflated some aspects of realty, such as land speculation and owning slaves, with personalty.

It is also interesting to note that a majority of the votes were cast in a pro-personalty manner for each of the categories, irrespective of whether the delegates were from a personalty group or not. For example, although delegates who were slave owners were significantly less likely to support these personalty votes compared to delegates who did not own slaves, they still voted in favor a majority of the time. However, because votes were cast in state blocs, the distribution of the delegate votes matters and it easily could be envisioned that a convention comprised exclusively of slave-owning delegates voting in favor of these pro-personalty clauses at a rate of 59% might still not pass any of them by state majority rule. In contrast, it would be highly unlikely that a convention comprised solely of delegates who did not own slaves and voted in favor 86% of the time would fail to pass the same votes by state majority rule.¹⁹ Thus, the statistical significance identified may indicate substantive meaning as well.

4.2 Support for the Constitution

In addition to making claims about votes directly related to personalty interests, Beard claimed that delegates from the personalty group "originated and carried through" the movement for the Constitution (Beard [1913] 2004, p. 324) and ultimately pushed it through ratification (Ibid., pp. 189–238). This suggests that personalty interests would be more likely to vote in favor of final passage of the Constitution at the Convention than those from the realty group. To test this conjecture, we examine the proportion of delegates from each of the personalty categories who voted in favor of the Constitution, broken down by personalty category. A delegate is coded as favoring the Constitution if he signed the Constitution or Farrand (1966), vol. 3, pp. 587–590 listed him as a supporter.

¹⁸ Securities holders and money lenders should have the greatest appreciation for the importance of limiting inflation through strict controls on currency production and specie requirements. Merchants and manufactures were also strongly opposed to paper currency (Ferguson 1961). In contrast, land speculators often relied on state bills of credit to finance their mortgages and thus were borrowers rather than lenders. Increased inflation would reduce the real value of their debts which is consistent with a realty interest.

¹⁹ This also underscores the importance of the voting rule to final passage of various clauses. In addition, if it were known that votes would be popularly determined by majority rule rather than by a majority of state votes, the states may have sent additional delegates to the Convention or required an equal number from every state to keep the weights equal. Any of these changes could have affected passage, or the debates and motions themselves.

A delegate is coded as opposing the Constitution if the delegate explicitly refused to sign the Constitution or Farrand listed him as opposed.²⁰ Three delegates could not be placed in either category and were therefore left uncoded.²¹

As shown in the first row for Table 3, panel B, there is not a statistical difference between the percentage favoring the Constitution among delegates in the personalty class and the percentage favoring the Constitution not in the personalty class. This again suggests that a narrow reading of Beard's claim is not well supported.

Breaking down personalty into its various sub-categories still shows no support for the notion that delegates from any of the personalty groups were significantly more likely to favor the Constitution than non-personalty delegates. Delegates belonging to any of the first four sub-categories did show a greater propensity to support the Constitution relative to delegates not in these sub-categories but the differences are generally slight. The only significant difference is among slave owners who were *less* likely to support final passage than non-slave owners. In the strictest sense, this also provides evidence against Beard. However, even though Beard sometimes identified slave ownership as a type of personalty, again it might be better to consider it a type of realty. As such, the last result might be considered as evidence favoring the spirit of the narrow thesis, but not the actual text.

5 Testing the broad thesis

We now turn our attention to a test of the broad thesis. Rather than asking whether particular personalty groups voted in favor of personalty interests more often than delegates not part of that group, we now determine whether delegates were more likely to vote according to their economic interests at the margin when other factors are controlled.

Our method of analysis is pooled logit regression using the inferred vote of the delegates as the dependent variable. This variable is coded 1 for yea (pro-personalty) and 0 for nay. Because votes had to be inferred, there may be measurement error in our dependent variable due to misinterpreted statements. We do not expect such error to be correlated with any of our independent variables (described below); therefore, standard logit estimation should be unbiased,²² though potentially inefficient (Wooldridge 2003, pp. 302–303). As a consequence, we consider statistical significance levels up to 10% cut-off levels.

²⁰ Of the 41 delegates present on the final day of the Convention, all but three (Gerry, Mason, and Randolph) signed the Constitution—with Read signing for Dickinson. Farrand lists six of the remaining delegates as supportive of the final Constitution, and four as opposed.

²¹ The uncoded delegates are Houston (New Jersey), Houstoun (Georgia), and A. Martin (North Carolina).

²² While most of the statements are easily interpretable, there are a few that are less clear and required additional discussion among the authors and other coders. In the appendix, we describe these inferences and summarize additional regression results obtained by dropping the inferences individually or collectively. The findings largely corroborate the results reported in the text.

5.1 Beardian influences on delegate voting

Beard's primary contention is that delegates who owned personalty recognized the benefits of protecting the real value of monetary assets through protection of contracts, enforced debt repayments, and regulating currency. We measure monetary assets by the value of private and public securities held by each delegate. Data for both variables came from McGuire (2003).²³

We include the value of private and public securities as separate independent variables because the impact of private securities can have other interpretations regarding direct financial incentives. For example, Grubb (2003, 2006) has recently advanced the position that the framers' complaints regarding state mishandling of currencies were merely a subterfuge for pure rent-seeking interests. He argues delegates with financial investments in the Bank of North America (BNA) were actually hoping to secure a monopoly in issuing currency for the BNA and pushed for a ban on state currencies solely to reduce competition for BNA-issued federal currency. His rent-seeking argument can be generalized to delegates who were stockholders for any bank. Recently chartered state banks in Pennsylvania, New York and Massachusetts issued banknotes which competed for usage as an inside paper money with the bills of credit issued by their respective states (Grubb 2006). Because private securities consisted almost entirely of bank stock (McGuire 2003), the separate inclusion of private securities provides an indirect test of rent-seeking among delegates who were also shareholders in banks. Just as a broad Beardian interpretation would suggest delegates who owned greater values of public securities would be more likely to support these personalty votes, the rent seeking hypothesis suggests delegates who owned greater values of private securities would also be more likely to support the same.

Beard identifies the groups primarily opposed to personalty as those who owned agricultural lands or were debtors. We therefore include a dummy variable for delegates who were net debtors and a dummy variable for delegates who owned agricultural land. Data for the former come from McGuire (2003). Data for the latter come from McDonald (1958, p. 91). McDonald's agricultural data differ from McGuire's (2003) farmer variable because the latter identifies delegates whose *primary* profession was farming. Only two delegates met those criteria. In contrast, McDonald identifies any delegate who owned land used for agricultural purposes. To analyze the *marginal* effect of realty interests, it is better to include all delegates who owned active farming land, as we have done here, even if farming was not their primary profession.

5.2 Control variables

The literature on the Constitutional Convention describes a variety of other factors which might affect how a delegate voted. We use this literature to develop a set of control variables.

²³ We thank Robert McGuire for sharing his data.

First, ideology may have played a role. Federalists sought to create a new constitution to replace the failing Articles of Confederation and to create a stronger national government. Anti-Federalists opposed ratification of the Constitution due to their concerns about state sovereignty and personal liberty (Storing 1981). As our first control, we include a dummy variable to indicate if the delegate was a Federalist, based on Riker's (1987) classification.²⁴

Second, delegates may have considered the interests of their constituents (i.e. people within their states) when deciding how to vote (Jensen 1964; Mayhew 1974; McGuire and Ohsfeldt 1984, 1986). Everything else being equal, a delegate whose citizens held large debts from the federal government would presumably favor requiring the federal government to honor all of its debts more than a delegate whose citizens were not owed such money. Similarly, if a delegate's constituents were owed a lot of federal debt, then they may be more inclined to require the states to pay their obligations to the federal government in gold and silver compared to a delegate whose constituents were not owed much federal money. Requiring payments in gold and silver would make the federal government more capable of honoring its debts to the delegate's constituents in a more valued form. Similarly, citizens who held federal debts might prefer removal of the explicit authority of Congress to print its own currency, in the belief that prohibiting paper currency would help to retain the value of debt repayments. To control for these factors we also included a variable which measures the amount of federal debt owed to people within each state.²⁵ Because we will use state population as a separate independent variable (see below), we do not use per capita terms.

In addition, various scholars note that large states often competed with small states on a variety of issues (Jillson and Anderson 1978; Slez and Martin 2007). As such, we control for state population using figures from *A Century of Population Growth* (United States Department of Commerce and Labor 1909). This source includes corrections to the federal census of 1790 based on earlier state census figures. Although this document enumerates state districts separately (as done in the census), we identify populations using the state boundaries that existed at the time of the Convention. Thus, the district of Maine is included as part of Massachusetts, Kentucky is included with Virginia, and Tennessee (also known as the Southwest Territory) is included with North Carolina.²⁶

Finally, some scholars claim that regional differences affected a variety of economic issues (Jillson and Eubanks 1984; Jillson 1988; Slez and Martin 2007). We control for region using a dummy variable for delegates from New England and

²⁴ Riker (1987, p. 14) includes Mason and Randolph among the other Federalists, because "their Antifederalism was entirely ex-post".

²⁵ These figures are based on the Loan Office Certificates, IOUs used for conscription, and debts owed to veterans, as reported in the *American State Papers* (United States Treasury Department 1832) Volume 1 (Finance), p 231.

²⁶ See Heckelman and Dougherty (2007) for a more extensive examination of this distinction. Our primary regression results are not affected by using white population in place of total population, or by using white population as designated by the 1790 census without the combined areas.

Table 4 Determinants of delegate voting on issues related to money and debt

	Coefficient (standard error)	Marginal change
Delegate economic interests		
Value of private securities (1000 s)	-0.031 (0.027)	-0.005
Value of public securities (1000 s)	0.403** (0.198)	0.058
Debtor (dummy)	-1.296 (1.294)	-0.186
Agricultural landholder (dummy)	-2.142* (1.249)	-0.308
Controls		
Federalist (dummy)	3.716** (1.580)	0.534
Debt held in state (1000 s)	-0.0004 (0.0003)	-0.00005
State population (1000 s)	-0.002 (0.0015)	-0.0003
New England region (dummy)	-0.488 (1.198)	-0.070
South region (dummy)	0.060 (1.251)	0.009
Constant	0.600 (2.028)	
<i>N</i>	103	
Pseudo R-squared	0.189	
Mean, dep var	0.767	

Dependent variable = 1 if a delegate voted yea, 0 if a delegate voted nay. The marginal impact on the probability of voting yea is estimated at mean value of the other variables

* p value ≤ 0.10 ; ** p value ≤ 0.05

a dummy variable for delegates from the South. The Middle Atlantic is treated as the default region.²⁷

5.3 Regression results

We pool all 103 observations and report logit results in Table 4. The marginal changes reported in the last column are estimated at the mean values for all variables. Among the personalty variables, the value of public, but not private, securities is found to be significant.²⁸ The latter suggests that Grubb's (2003) rent-seeking hypothesis is not supported in this context. The estimated coefficient on public securities suggests a delegate increased his likelihood of voting yea by 5.8 percentage points for an additional \$1,000 in public securities he owned. Given that many delegates had several thousand dollars worth of public securities, this statistically significant variable also represents a quantitatively important effect.

Being a debtor did not have a statistically significant impact, but delegates owning agricultural lands were estimated to be 31 percentage points less likely to have supported these personalty motions compared to an otherwise identical

²⁷ New England includes New Hampshire, Massachusetts, and Connecticut. The South includes Maryland, Virginia, North Carolina, South Carolina, and Georgia. The remaining states comprise the Middle Atlantic.

²⁸ Lack of significance for private securities is unlikely to be due to multicollinearity with public securities. The two variables are correlated at only 0.24.

delegate without agricultural land. The latter is consistent with Beard's notion that those who owned realty were less likely to support these votes. Overall, the results tend to support the broad view that owning personalty or realty had an important marginal effect on votes related to paper currency and repayment of debts.

The results differ somewhat from the econometric analyses of McGuire and Ohsfeldt (1986) and McGuire (2003), who found private rather than public securities to be significantly influential on vote 387 (the only one of the four votes from this study that they analyzed). However, McGuire and Ohsfeldt (1986) also found the debtor variable to be insignificant, similar to the finding here. An agricultural land variable was not included in any of their regressions.²⁹

Among the control variables included here, only the Federalist dummy is statistically significant at conventional levels. A typical Federalist was 53 percentage points more likely to favor these clauses compared to an otherwise identical Anti-Federalist. Neither the amount of debt held in the state, the size of the state, nor the state's region was significant factors for these votes. The latter suggests that delegates broke from large state/small state coalitions, or regional coalitions, on at least some issues—if such coalitions existed at all.

To control for additional unobserved heterogeneity across the different motions, we also ran a regression (unreported) which included a set of indicator dummies for each of the separate clauses (dropping one to avoid perfect collinearity). These dummies were neither individually nor jointly significant. None of the signs nor significance levels for the other variables were appreciably affected. This helps to corroborate our results.

In the appendix, we discuss additional regressions which discard specific vote inferences that might be considered somewhat questionable. The results largely infer the same, suggesting our findings are generally robust.

There remains, however, the possibility of bias due to selectivity. Our regression sample contains roughly half of all potential votes (see Table 2). We are missing observations either because delegates did not attend a specific vote or because we were unable to infer their vote despite their attending. If the available observations are not a random sample of the population of all potential votes, then our regression analysis may suffer from sample selection bias. To test for this possibility, we utilize the Heckman Maximum Likelihood estimation procedure described in Greene (2008, p. 884–888). Our sample selection equation contains all the regressands used as determinants for how a delegate voted (presented in Table 4), which includes both delegate and state specific variables. Because certain clauses generated more discussion than others, thereby affecting our ability to code votes, we also include the clause indicator dummies as additional determinants in the sample selection equation. The test statistic yields a *p* value of 0.40, indicating that we cannot reject the null of no selection bias. This lends additional support to the validity of our findings.

²⁹ Although McGuire and Ohsfeldt also test a variant of Beard's thesis, they use a different set of votes than the ones included here. Thus, their results are not directly comparable to ours.

6 Conclusions

Our results provide little support for a strict interpretation of the Beard thesis. Delegates who Beard classified as owning some type of personalty were no more likely to support personalty issues than delegates who did not hold personalty. This is partly because various sub-categories of personalty were not interchangeable. Delegates holding large amounts of securities and those who were merchants, manufacturers or shippers were much more likely to vote for restrictions on state and federal currency and strict enforcement of debt repayments, whereas those who speculated in western lands or owned slaves were significantly less likely to support these issues. The final category of money lenders appears to have favored the clauses at roughly the same rates as non-money lenders.

Furthermore, delegates that Beard classified as owning personalty were no more likely to support final passage of the Constitution than those without such classification. Among Beard's sub-categories, only slave owners were significantly different from other delegates, and they were *less* likely to support the Constitution—contrary to Beard's classification. These results provide evidence against Beard's claim that those who owned personalty were unified in their push for the Constitution.

However, just because there is little evidence to support a strict interpretation of the Beard thesis does not mean that economic interests did not matter at the Constitutional Convention. If we treat land speculators and slave owners as realty interests, then there is much more support for the narrow version. Furthermore, in our examination of a broader version of Beard's thesis, we find that both the value of the public securities owned by a delegate and whether a delegate owned agricultural land had significant marginal effects (in the hypothesized directions) on the decision to support personalty clauses. In contrast, neither the value of private securities nor the status of being a personal debtor had significant impacts on inferred voting behavior at the margin. Hence, our regression results provide moderate support for the broad thesis that economic interests affected delegate voting on the margin.

These findings are somewhat weaker than the conclusions regarding the importance of personal delegate economic interests reached by McGuire and Ohsfeldt (1986, 1997), McGuire (2003), and Heckelman and Dougherty (2007). The lack of significant state characteristics in our regression analysis supports the finding in Heckelman and Dougherty (2007) that state constituency interests may have been less important than previously claimed by McGuire and Ohsfeldt (1986, 1997) and McGuire (2003).

The evidence we find in favor of Beard's thesis can be interpreted in different ways. Delegates may have been influenced by considering their own pecuniary interests. Alternatively, they may have been influenced by these factors because their economic interests shaped who they interacted with and what issues they understood to be important (Barrow 2000).

While the traditional interpretation of Beard's thesis is that delegates wanted to attain pecuniary gain (McDonald 1958, McGuire 2003), Beard appears to make several competing claims about what motivated the movement for a new

Constitution. Indeed, at one point he stresses that delegates from different economic classes voted in separate coalitions at the Convention because they came from different backgrounds and understood how their own experiences would be affected, not because they wanted to fill their own pocket books (Beard [1913] 2004, p. 73). We do not provide evidence that distinguishes these interpretations.

Nevertheless, our results contrast with the view held by various historians that the American framers were disinterested statesmen who used the Constitutional Convention solely to promote various philosophical views (Collier 1986; Wood 1987; Bailyn 1992, pp. 371–377). Although it is still possible that delegates strove for such goals, the results presented in this study suggest that delegates were not entirely impartial in their behavior—whether intentional or not. The delegates’ personal economic interests, measured by public securities and agricultural land, affected their behavior on the margin for certain key votes. Whether this behavior resulted from common experiences or is an attempt to promote financial self-interest may be of little importance. In either case, the Constitution would not be interpreted as a document constructed wholly by impartial individuals.

Acknowledgments Funding for this research was supported by the National Science Foundation, SES-0418254. We thank Robert McGuire for providing some of the data, and Robi Regan and Claudine Smith for research assistance. We also appreciate comments from participants at the Cliometric session on “Crises in Early American History” at the 2009 Allied Social Science Association conference, San Francisco.

Appendix

This appendix evaluates the robustness of the regression results when questionable codes for delegate votes are removed from the analysis. Cases with only two delegates in attendance for a particular state can be considered definitive and most of the statements in diaries, speeches, and other sources allowed for a clear code. However, a few exceptions arose.

For vote 365, the only questionable vote is that of Ellsworth. In response to a committee report on August 23, Ellsworth argued that the words giving the federal legislature the power to fulfill previous debts were unnecessary (Farrand 2: 377). As such we coded him as voting nay on vote 365 to make all debts owed by the federal government “valid against the United States under this constitution as under the Confederation” (Farrand 1966, vol. 2, p. 414). Alternatively, since he thought an explicit statement unnecessary but was not opposed to the concept itself, he might have voted in favor of the version presented on August 25. Hence, this inference is not as clear as most of the others. If this observation is left as uncoded, then a new regression reduces the p value on public securities to 0.07, but the levels of significance of the other variables remain the same.³⁰

On vote 390, Livingston was assigned a yea because he often championed creditors. Writing under the pseudonym “Primitive Whig,” he launched a major counter assault to a bill emitting paper currency in the state of New Jersey (Prince

³⁰ The same result is found if we change Ellsworth’s vote to “yea” on vote 365.

1979, vol. 5, p. 152). He claimed that “lazy, lounging, and lubberly fellows” were the type to complain “of the hardness of the times, and the want of a circulating medium” when they paid taxes (Ibid.). Such statements demonstrate Livingston’s opposition to state paper currency and his implicit desire to have state taxes paid in specie, but they do not suggest directly that he felt the same way about the payment of federal debts by the states. When this observation is dropped from the sample, none of the interpretations regarding the significance of any individual variables are altered.

Similarly, Gorham was assigned a nay vote on 390 based on his opposition to a motion to prevent the states from emitting bills of credit and to allow only gold and silver for payment of federal debts. Before the question could be divided, Gorham said he thought the purpose of the motion would be secured by another clause which made acts of the federal legislature the supreme law of the states (Article 8 of the Committee of Detail). Madison records Gorham as stating “in that mode, no opposition would be excited” (Farrand 1966, vol. 2, p. 439). Gorham then continued “whereas an absolute prohibition of paper money would rouse the most desperate opposition from its partizans.” Our coding may be questionable because it is not clear whether Gorham is referring to both clauses (as we interpreted it) or specifically to the prohibition of state currency. Recoding Gorham has a potential effect on his co-delegates Gerry and King because they were coded yea based on Gorham’s nay vote and the yea vote of their state. No independent evidence regarding the positions of Gerry and King could be found for this vote. Thus, leaving Gorham uncoded also requires leaving Gerry and King uncoded. Dropping these three inferences from the sample does not alter the significance of any of the variables.

In a final regression, we drop all five of the questionable codings from the sample. Doing so eliminates the significance of the public securities variable altogether (p value = 0.29) and its estimated marginal impact of each additional dollar is cut in half. However, none of the other variables are significantly affected.

Thus, it appears our results are fairly robust to our inferencing decisions. Only when all five of our less-certain codings are dropped is the estimated importance of any of the variables significantly altered. In particular, the owning of public securities fails to achieve statistical significance at standard levels when these five observations are dropped. This is not too surprising given that the change implies dropping of almost five percent of the total sample. Still, it somewhat lessens our confidence in the contention that owning securities was a primary determinant of voting behavior. However, we do find that realty interests, as measured by owning agricultural land, had a significant marginal impact on every regression.

Additionally, a reviewer questioned the reliability of information from secondary sources. Five of our inferences are based on secondary sources, and from one of these inferences we were able to code two additional votes based on the state vote.³¹ While we believe our inferences are correctly interpreted given the statements

³¹ These include Washington on vote 365, Dickinson, Jenifer, and G. Morris on vote 387, and Dickinson and 390. Because we had already inferred Martin’s vote as “nay” on vote 387 and Maryland’s state vote was divided, coding Jenifer as “nay” required Carroll and McHenry to be “yeas”.

contained in these sources, the sources themselves may be somewhat less reliable. As a final robustness test, we dropped all seven of these observations from the sample. Results largely mirror those presented in Table 3, except that the p value on the population variable improves from 0.20 to 0.12 but still remains shy of the 10% level of significance. Thus, we conclude that using secondary sources does not affect our main results.

References

- Bailyn B (1992) *The ideological origins of the American Revolution*. Harvard University Press, Cambridge
- Barrow C (2000) *More than a historian: the political and economic thought of Charles A. Beard*. Transaction Publishers, New Brunswick
- Beard CA ([1913] 2004) *An economic interpretation of the Constitution of the United States*. Dover Publications, New York
- Brown RE (1956) *Charles Beard and the Constitution: a critical analysis of "an economic interpretation of the constitution"*. W. W. Norton, New York
- Collier C (1986) *Decision in Philadelphia: the Constitutional Convention of 1787*. Random House, New York
- Dougherty KL, Heckelman JC (2008) Voting on slavery at the Constitutional Convention. *Public Choice* 136:293–313. doi:[10.1007/s11127-008-9297-7](https://doi.org/10.1007/s11127-008-9297-7)
- Farrand M (ed) (1966) *The records of the Federal Convention of 1787, vol 1–4*. Yale University Press, New Haven
- Ferguson JE (1961) *The power of the purse: a history of American Public Finance, 1776–1790*. University of North Carolina Press, Chapel Hill
- Gibson AR (2007) *Understanding the founding: the crucial questions*. University Press of Kansas, Lawrence
- Greene WH (2008) *Econometric analysis*, 6th edn. Pearson Prentice Hall, Upper Saddle River
- Grubb FW (2003) Creating the U.S. Dollar currency union, 1748–1811: a quest for monetary stability or a usurpation of state sovereignty for personal gain? *Am Econ Rev* 93:1778–1798. doi:[10.1257/000282803322655545](https://doi.org/10.1257/000282803322655545)
- Grubb FW (2005) State 'currencies' and the transition to the U.S. Dollar: reply including a new view from Canada. *Am Econ Rev* 95:1341–1348. doi:[10.1257/0002828054825664](https://doi.org/10.1257/0002828054825664)
- Grubb FW (2006) The U.S. Constitution and monetary powers: an analysis of the 1787 Constitutional Convention and how a constitutional transformation of the nation's monetary system emerged. *Financ Hist Rev* 13:43–71. doi:[10.1017/S0968565006000059](https://doi.org/10.1017/S0968565006000059)
- Heckelman JC, Dougherty KL (2007) An economic interpretation of the Constitutional Convention of 1787 revisited. *J Econ Hist* 67:829–848. doi:[10.1017/S0022050707000411](https://doi.org/10.1017/S0022050707000411)
- Hutson JH (1987) *Supplement to Max Farrand's the records of the Federal Convention of 1787*. Yale University Press, New Haven
- Jensen M (1964) *The making of the American Constitution*. Robert E. Kreiger Publishing Company, Huntington
- Jillson C (1988) *Constitution making: conflict and consensus in the Federal Convention of 1787*. Agathon Press, New York
- Jillson C, Anderson T (1978) Voting bloc analysis in the Constitutional Convention: implications for an interpretation of the Connecticut compromise. *West Polit Q* 31:535–547. doi:[10.2307/447234](https://doi.org/10.2307/447234)
- Jillson C, Eubanks CL (1984) The political structure of constitution making: the Federal Convention of 1787. *Am J Pol Sci* 28:435–458. doi:[10.2307/2110899](https://doi.org/10.2307/2110899)
- Kaminski JP, Saladino GJ (eds) (1981–1995) *The documentary history of the ratification of the Constitution: commentaries on the Constitution, public and private, vol 13–18*. State Historical Society of Wisconsin, Madison
- Mayhew D (1974) *Congress: the electoral connection*. Yale University Press, New Haven

- McDonald F (1958) *We the people: the economic origins of the Constitution*. University of Chicago Press, Chicago
- McGuire RA (1988) Constitution making: a rational choice model of the Federal Convention of 1787. *Am J Pol Sci* 32:483–522. doi:[10.2307/2111133](https://doi.org/10.2307/2111133)
- McGuire RA (2003) *To form a more perfect union: a new economic interpretation of the United States constitution*. Oxford University Press, Oxford
- McGuire RA, Ohsfeldt RL (1984) Economic interests and the American Constitution: a quantitative rehabilitation of Charles A. Beard. *J Econ Hist* 44:509–519
- McGuire RA, Ohsfeldt RL (1986) An economic model of voting behavior over specific issues at the Constitutional Convention of 1787. *J Econ Hist* 46:79–111
- McGuire RA, Ohsfeldt RL (1997) Constitutional economics and the American founding. *Res Law Econ* 18:143–171
- Michener RW, Wright RE (2005) State ‘currencies’ and the transition to the U.S. Dollar: clarifying some confusions. *Am Econ Rev* 95:682–703. doi:[10.1257/0002828054201495](https://doi.org/10.1257/0002828054201495)
- Prince C (1979) *The papers of William Livingston*. New Jersey Historical Commission, Trenton
- Rakove J (1996) *Original meanings: politics and ideas in the making of the Constitution*. Alfred Knopf, New York
- Riker W (1987) The lessons of 1787. *Public Choice* 55:5–34. doi:[10.1007/BF00156808](https://doi.org/10.1007/BF00156808)
- Slez A, Martin JL (2007) Political action and party formation in the United States Constitutional Convention. *Am Sociol Rev* 72:42–67
- Storing FJ (1981) *What the anti-federalists were for*. University of Chicago Press, Chicago
- United States Department of Commerce and Labor (1909) *A century of population growth from the first census of the United States to the twelfth, 1790–1900*. U.S. Government Printing Office, Washington
- United States Treasury Department (1832) *American state papers*. Gales and Seaton, Washington
- Wittman D (1995) *The myth of democratic failure: why political institutions are efficient*. University of Chicago Press, Chicago
- Wood G (1987) Interests and disinterestedness in the making of the Constitution. In: Beeman Richard et al (eds) *Beyond confederation: origins of the Constitution and national identity*. University of North Carolina Press, Chapel Hill
- Wooldridge JM (2003) *Introductory econometrics: a modern approach*, 2nd edn. Thompson, Cincinnati