Summer Proposal: Economic Origins of the Constitution

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In this project, we revisit a celebrated question in US history: what were the economic interests of the men who drafted and ratified the US Constitution?

Charles Beard (1913) had asked and answered this question. He concluded that many delegates to the Constitution Convention in the summer of 1787 as well as many of the delegates to subsequent state conventions that ratified the Constitution owned Confederation and States securities that were issued to finance the Revolutionary War. Thus they had a financial interest to draft and ratify a document that strongly supported the interests of public creditors. In particular, the US Constitution granted the new federal government the power to collect customs revenue. Section VI begins

> All Debts contracted and Engagements entered into, before the Adoption of this Constitution, shall be as valid against the United States under this Constitution, as under the Confederation.

With the benefit of more detailed data, Forrest McDonald (1958) revisited this question. In contrast to Beard, he concluded that most of the delegates to the Constitution Convention and the various state conventions were motivated by what they viewed as best for their individual states and the federation of all 13 states rather than their personal financial interests.

We have more data than McDonald, and we have the added advantage of Intel, AMD, M1, and other chips and good statistics and machine learning algorithms. The goal of this summer project is to extend and refine McDonald's analysis using the datasets that we have assembled. In particular, we ask you to help us to organize and interpret security holdings of each delegate to the Constitution Convention and the State Ratification Conventions. As we discuss in more detail below, we ask you load these datasets into Pandas DataFrames and match names across different DataFrames.

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1 Background

This section provides a brief summary of data we have collected and organized. For further discussion of some of the work we have already done with these data, see the accompanying manuscript "Notes on the Interest-Bearing Domestic Debt of the American Revolution and Its Refunding."

1.1 Pre-1790 Securities

By the mid-1780s the Continental government had about 27.5 million dollars (in specie) of interest-bearing domestic debt. This debt was incurred to finance the Revolutionary War. The main components of this debt were:

1. loan office certificates issued by state loan officers between 1777 and 1781
2. liquidated debt certificates issued by five military commissioners
3. liquidated debt certificates issued by 13 state loan officers after 1783
4. debt certificates to Continental soldiers for back-pay issued by John Pierce
5. other miscellaneous credits

We have records of the amounts issued to individuals of

1. loan office certificates *for 9 of 13 states*
2. liquidated debt certificates issued *by 1 of the 5 military commissioners*
3. liquidated debt certificates issued *by 8 of the 13 state loan officers*
4. *Nearly all of the* debt certificates issued by John Pierce to Continental soldiers for back-pay
5. *None of the* other miscellaneous credits

Overall we have records on over 208,000 individual debt certificates issued by the Continental government with specie values totaling over 24 million dollars. These represent about 85% of the domestic interest-bearing debt (prior to accounting for interest in arrears).

1.2 Writing and Ratifying the US Constitution

During the summer of 1787, 55 delegates attended the Constitution Convention in Philadelphia. 39 delegates signed the Constitution. To go into effect, the Constitution had to be ratified by 9 of the 13 ratification conventions to be held in each state. In the table 1 we report the votes of the 13 state (plus Vermont!) ratification conventions.

State	Convention	Vote on Ratification	Vote
Delaware	3–7 December 1787	7 December 1787	30-0
Pennsylvania	20 November–15 December 1787	12 December 1787	46-23
New Jersey	11–20 December 1787	18 December 1787	38-0
Georgia	25 December 1787–5 January 1788	31 December 1787	26-0
Connecticut	3–9 January 1788	9 January 1788	128-40
Massachusetts	9 January–7 February 1788	6 February 1788	187-168
Maryland	21–29 April 1788	26 April 1788	63-11
South Carolina	12–24 May 1788	23 May 1788	149-73
New Hampshire	13–22 February 1788 (1st session)		
	18–21 June 1788 (2nd session)	21 June 1788	57-47
Virginia	2–27 June 1788	25 June 1788	89-79
New York	17 June–26 July 1788	26 July 1788	30-27
North Carolina	21 July–4 August 1788 (1st convention)	2 August 1788	75-193
	16–23 November 1789 (2nd convention)	21 November 1789	194-77
Rhode Island	1–6 March 1790 (1st session)		
	24–29 May 1790 (2nd session)	29 May 1790	34-32
Vermont	6-10 January 1791	10 January 1791	105-4

Table 1: State Ratification Conventions

Center for the Study of the American Constitution UW–Madison `https://csac.history.wisc.edu/states-and-ratification/`

2 Description of the Files

We have placed a set of files in the dropbox subdirectory
`\Dropbox\Economic_Origins_of_the_Constitution`. There are three subdirectories

1. Delegates
2. Pre-1790 Certificates
3. Post-1790 Stocks

2.1 Delegates

First, consider the files in the `Delegates` subdirectory.

The excel spreadsheet, `constitutional_convention_1787.xlsx` lists delegates to the Constitutional Convention in Philadelphia in the Summer of 1787:

- Columns A and B: first and last name of the delegate,
- Column C: state that the delegate represented
- Column D: "yes" if the delegate signed the Constitution; "no" otherwise

The excel spreadsheet `State Delegates.xlsx` lists delegates to each of the 13 state ratification conventions.[1] For each delegate, we report his (they were all men)

- Columns A and B: last and first name of the delegate,
- Column C Position (usually President or Secretary of the convention),
- Column D: state,
- Column E: county or town that the delegate represented (if available),
- Column F: vote on ratification (yes, no, or did not vote).

There are 1696 names on this list. With our records, we are not able perfectly to match the vote totals in table 1. We are working to understand discrepancies.

For each delegate listed in `constitutional_convention_1787.xlsx` and `State Delegates.xlsx` we want to know his holdings of

1. loan office certificates,
2. state-issued liquidated debt certificates,
3. Pierce certificates, and
4. Marine Department certificates

We now turn to describe the files that report our certificate data.

[1] This file does not include Vermont.

2.2 Pre-1790 Certificates

We placed the files recording issues of the certificates listed above in the `Pre-1790 Certificates` subdirectory.[2] There are 12 files in this subdirectory:

- `Pierce_Certs_cleaned_2019.xlsx` lists over 93,000 certificates issued by the army to soldiers for back pay. There are eight columns:
  - Column A: certificate number
  - Column B and C last and first name of the soldier to whom the certificate was issued
  - Column D: face value of the certificate
  - Column E and F: soldier's regiment
  - Column G: state of the regiment
  - Column H: 1 if the soldier was an officer; 0 otherwise
- `loan_office_certificated_9_states.xlsx` reports information on 81,000 loan office certificates issued by nine state loan offices. Each row records:
  - Column A: State in which the certificate was issued. The numbers correspond to the following states : 1=NH; 2=MA; 3=CT; 4=NY; 5=NJ; 6=PA; 7=DE; 8=MD; 9=VA.
  - Columns B, C and D: Date (year, month, day) the certificate was issued.
  - Columns E-J: Name(s) of the person(s) to whom the certificate was issued.
  - Column K: Face value of the certificate (in dollars).
  - Column L: Specie value of the certificate (in dollars)
- There are nine files `liquidated_debt_certificates_XX.xlsx` where XX stands for the state code provided above. The are two files for Pennsylvania. Organization varies slightly across states so you will want to check each file before you read it into a pandas dataframe.
  Consider the Connecticut file: `liquidated_debt_certificates_CT.xlsx`
  - Columns A and B: Page and jpeg number of the original image of the microfilm (you may ignore this information)
  - Columns C and D: Certification number and letter. We do not know what the letter means. If you figure this out, please let us know!!

[2]For now, let's focus on the Pre-1790 Certificates. We will turn our attention to the Post-1790 Stocks later in the summer.

- Columns E, F and G: Date (month, day, year) the certificate was issued.
- Columns H-M Name(s) of the person(s) to whom the certificate was issued
- Columns N, O, and P: Date on which the original claim had come due. (These certificates were issued because the government did not pay the original claim.)
- Columns Q and R. Face value of the certificate (in dollars and 90th of a dollar). Note that the "cents" isn't out of 100; it is out of 90. Thus, 45 is half a dollar and 30 is 1/3 of a dollar.
- Columns S-T records writing from the original records. We don't know what this written means.

- `Marine_Liquidated_Debt_Certificates.xlsx` reports the issue of 765 liquidated debt certificated issued by the Marine Department. Each row records:
  - Columns A and B: Page and jpeg number of the original image of the microfilm (you may ignore this information)
  - Columns C and D: Certification number and letter. We do not know what the letter means. If you figure this out, please let us know!!
  - Columns E, F and G: The date (month, day, year) the certificate was issued.
  - Columns H, I, J: Name of the person to whom certificate was issued
  - Columns K, L, and M: Date on which the original claim had come due. (These certificates were issued since the government did not pay the original claim.)
  - Columns N and O. The face value of the certificate (in dollars and 90th of a dollar). Note that the "cents" isn't out of 100; it is out of 90. Thus, 45 is half a dollar and 30 is 1/3 of a dollar.
  - Columns P-T records writing from the original records. We don't know what this means.

3 Work to Be Done

As we stated earlier, for each delegate listed in `constitutional_convention_1787.xlsx` and `State Delegates.xlsx` we want to know his holdings of

1. loan office certificates,
2. state-issued liquidated debt certificates,

3. Pierce certificates, and

4. Marine Department certificates

To proceed we want you to compare two lists of names and see which names show up on both lists. Sometimes this name-matching exercise is straightforward, but often two names may be close but not identical. Small spelling differences, the inclusion of a middle initial, and things like inconsistent use of periods can cause names not to match perfectly. Consequently, you will need to use a Python machine learning fuzzy-matching algorithm to calibrate how similar are two strings of text, and then to decide who is who. We describe some mechanical details about this task below.

As an example, consider Benjamin Franklin, a delegate to the Constitutional Convention and signer of the Constitution. We observe from our loan office records that Benjamin Franklin was issued 27 loan office certificates totaling $8,100 (both in face and specie value).[3] As far as we know, these are all the securities Franklin was issued.

We ask that you do the following

- Import each excel file into a pandas dataframe.
- Use the Python library *Fuzzywzzy* to perform fuzzy string matching of names across lists of delegates and lists of securities issued.[4] This step will require both math and judgement. The Levenshtein distance will tell you whether two names are "close", but ultimately you must use your own judgement to decide whether two names denote the same person. For example "William Fitzsimmons", "William Fitzsimons" and "Wm Fitzsimons" are likely the same person if they are all from the same state. But "Samuel Ball" and "Samuel Hill" are probably two different people. Use good judgement and take detailed notes to provide a record of your decisions and the reasons behind them.
- Create a table of the securities holdings of the delegates. We have completed one row for you.

		Loan Office Certs			State Lqd Debt Cts		Pierce Certs		Marine Certs	
Delegate	State	# of certs	face value	specie value	# of cert	specie value	# of cert	specie value	# of cert	specie value
Benjamin Franklin	PA	27	8,100	8,100	0	0	0	0	0	0

[3]The Pennsylvania loan office issued Franklin 14 $300 certificates on 12/20/1776 and 13 $300 certificates on 12/30/1776.

[4]Fuzzy matching uses the Levenshtein distance. This metric measures a difference between two strings of text. In particular, it counts the minimum number of edits needed to change one string into the other. These edits can be insertions, deletions, or substitutions.

Undoubtedly, many questions will arise. These records were handwritten by many different people over a 15-year period 230 years ago. We are still figuring out these records ourselves. These records may contain errors, typos, and inconsistencies. If you find a possible error in the data, let us know. Feel free to contact us at `ghall@brandeis.edu` and `thomas.sargent@nyu.edu`. Have fun.

4 Future Work

After you have done the work described above, we will take steps to incorporate records of Alexander Hamilton's refinancing operation into our analysis.

4.1 Post-1790 Securities

The Funding Act of August 4, 1790:

1. authorized three new consols
   (a) Six per cent stock – paying a six percent coupon, payable quarterly.
   (b) Deferred Six per cent stock – paying no coupons until 1801, then six percent afterwards
   (c) Three per cent stock – paying a three percent coupon, payable quarterly.
2. refinanced the existing domestic Federal creditors according to the following rules
   (a) Owners of domestic Federal debt (i.e., loan office certificates and certificates of indebtedness) received 2/3 in 6 percent stock and 1/3 in deferred six percent stock.
   (b) Owners of indent received 3 per cent stock. The Congress did not treat interest payments the same as principal because its policy was not to pay "interest on interest."
3. assumed the state debts[5]
   - Owners of state debts received 4/9 in 6 percent stock; 2/9 in deferred six percent stock; and 3/9 in 3 per cent stock. In this calculation, the total included both the principal and the accumulated unpaid coupon payments.
4. defaulted on its original promise to convert a Continental dollar to a Spanish dollar one-for-one, offering instead to exchange 100 Continental dollars for 1 Spanish dollar.

Exchanges of the Continental and state debts for the three new bonds began in September 1791.

Continental creditors received annual coupon payments of 4 percent of their principal (or par values) for 10 years. After 10 years, creditors received annual coupon payments of 6 percent of their principal. This amounted to a one-third reduction in the promised coupon payments for ten years – a partial repudiation of the Continental debt. More politely put, it was a "rescheduling".

While record-keeping practices varied across states, each state loan office maintained six ledgers that recorded issues of the six percent, deferred six percent and three percent stocks. In one set of

[5] "Assumed" means nationalized.

three ledgers, the loan offices recorded the issues of the three new securities exchanged for the assumed state debts. In a second set of three ledgers, the offices recorded the issues of the new securities exchanged for the Continental debts. Within each of these two sets, the loan office maintained separate ledgers for the six percent stocks issued, the deferred six percent stocks issued and the three percent stocks issued.

When an investor exchanged her Continental debt at the loan office, she received two securities, namely, six percent and deferred six percent stocks for the principal; if she had unpaid coupons, she also received a three percent stock. When an investor exchanged his state debt at the loan office, he received all three securities. Since these exchanges were recorded across two or three ledgers, we used the names, dates, and the refunding ratios to match the transaction across the ledgers. For the transactions we were able to match across ledgers, we refer to these as *matched transactions*.

References

Beard, Charles. 1913. *An Economic Interpretation of the Constitution of the United States*. New York: Macmillan.

McDonald, Forrest. 1958. *We the People: The Economic Origins of the Constitution*. University of Chicago Press.