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**The Net Asset Position of the U.S. National Government,  
1784-1802: Hamilton's Blessing or the Spoils of War?\***

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**[8,000 Word Abridged Version]**

*"I know no subject that is so little understood or has been less profoundly examined by the legislative Characters of America, than that of Finance..."*<sup>1</sup>

**Introduction**

The U.S. National Government incurred significant debt during the War for Independence (1775-1783). By 1790 almost nothing had been paid on this debt. The National Government was in default and had been in default on the domestic portion of its debt for over a decade. In 1790, under the auspices of the new Constitution adopted by Congress in 1789, the National Government "un-defaulted" part of its domestic debt and also assumed responsibility for the remaining war debts of the individual states, but only after a fashion. It funded the interest payments due on these debts only—intending for the most part to pay nothing toward reducing the principal. In 1791 the face value of the funded principal of the National Government's debt totaled \$77 million. In 1802 the National Government was still \$77 million in debt.

Yet, by the early 1790s the U.S. National Government—mired deep in debt, with no intention of paying down the principal of this debt any time soon, having failed to un-default all its war debt, and having yet to garner a reputation for never missing an interest payment on the portion of the debt it had un-defaulted in 1790—was still able somehow

to garner an excellent credit rating in Europe. John Steele Gordon (1998, p. 39) observed that, “By 1794 it [the U.S. National Government] had the highest credit rating in Europe, and some of its bonds were selling at 10 percent over par. Talleyrand, who later became the French foreign minister, explained why. The United States bonds, he said, were ‘safe and free from reverse. They have been funded in such a sound manner and the prosperity of this country is growing so rapidly that there can be no doubt of their solvency’”

How was this possible? Many scholars point to the plan for funding the National Debt proposed in January of 1790 by the Secretary of the Treasury, Alexander Hamilton, as the explanation. How this plan instantly overcame all the negatives mentioned above to the National Government’s credit record and why the plan took the exact shape it did has remained somewhat enigmatically, or at best incompletely, explained—being for some writers just what miracles are made of.

The literature on the National Debt frequently forgets the asset side of the ledger. War can produce a mountain of debt, but the spoils from winning a war can also produced a treasure chest of assets. Between 1784 and 1802 the U.S. National Government acquired an empire of land—claims legally gained as the spoils of war in the Treaty of Paris that granted the U.S. independence. While initially the individual states claimed these lands, one by one the states ceded their claims to the National Government. By 1802 the U.S. National Government had been ceded 222 million acres of land between the current borders of the original 13 states and the Mississippi River. The states considered that the lands they had ceded to the National Government were to be used to payoff or provide the security that would back up the war debt incurred to gain independence.

So—did winning the War for Independence leave the U.S. National Government in a net positive or net negative asset position? Were its land assets sufficient to cover or provide security for its debt liabilities? In other words, was the U.S. National Government solvent? If its net asset position was positive, then its excellent credit rating might have had as much to do with the spoils of war—land backed debt—as with Hamilton’s funding plan.<sup>2</sup> If negative, then maybe Hamilton and Congress really did work miracles in 1790.

### **Do Government Assets Matter? A Budget Constraint Model of Creditworthiness**

The government’s budget constraint connects its cash flows to its capital stocks. In particular, the government’s yearly tax revenue ( $\mathbf{T}_i$ ) minus its yearly expenditures ( $\mathbf{G}_i$ ) must equal the change in its stock of net capital assets ( $\mathbf{A}_i - \mathbf{D}_i$ ), where  $\mathbf{A}$  are salable capital assets—e.g. inventories of specie and land, and  $\mathbf{D}$  are the face value of its debt liabilities—principally callable perpetuities with the principal payable only at the government’s discretion and old fiat currency for the U.S. in this period.<sup>3</sup>

$$\mathbf{T}_i [t * \mathbf{I}_i ; \mathbf{O}_i] - \mathbf{G}_i [(1 - k_i) * \mathbf{R}_g * \mathbf{D}_i ; \mathbf{E}_i] = \Delta[\mathbf{A}_i - \mathbf{D}_i]$$

For the U.S. National Government in this period the principal tax revenue came from a tariff ( $t$ ) on current imports ( $\mathbf{I}_i$ ), with  $\mathbf{O}_i$  representing all other current-year tax revenues, such as from the whiskey tax. Yearly expenditures comprise the interest the National Government owes on the face value of its current stock of interest-bearing debt ( $\mathbf{R}_g * \mathbf{D}_i$ ) that it does not default on ( $1 - k_i$ ), where  $k_i$  is the default rate ( $0 \leq k_i \leq 1$ ), with  $\mathbf{E}_i$  representing all other current-year expenditures, such as military expenditures.

When the government has a budget deficit [ $\mathbf{T}_i - \mathbf{G}_i < 0$ ] then it has a shortfall of revenue which must be covered either by selling some assets [ $\mathbf{A}_{i+1} < \mathbf{A}_i$ ] and/or

borrowing more [ $\mathbf{D}_{i+1} > \mathbf{D}_i$ ] and/or increasing its default on its interest payments ( $k_{i+1} > k_i$ ). If an important goal of the government is to protect its creditworthiness by keeping  $k_i = 0$ , then increasing  $k$  is not an option but a last resort. If the government has no assets ( $\mathbf{A}$ ) then it has to increase its debt liabilities ( $\mathbf{D}$ ). However, increasing  $\mathbf{D}$  via interest-bearing liabilities raises  $\mathbf{G}$  in the future [ $(\mathbf{R}_g * \mathbf{D}_{i+1}) > (\mathbf{R}_g * \mathbf{D}_i)$ ] which puts increased pressure on the budget to stay in deficit [ $\mathbf{T}_{i+1} - \mathbf{G}_{i+1} < 0$ ] particularly given that in this period the U.S. National Government's ability to raise taxes in the near future was tightly constrained. This scenario puts the government in an unsustainable long-run position and so puts increasing pressure on the government to increase  $k$ , i.e. to default in the near future. It also puts the government in a position where the likelihood of it being able to pay down or retire any of the principal of  $\mathbf{D}$  at face value in the near future is greatly reduced. This in turn makes potential lenders reluctant to contract with the government in the near future.

This last scenario fits the United States in the late 1780s as James Madison explained it to Thomas Jefferson on October 24, 1787,

Such is the state & prospect of our fiscal department that any new loan however small, that should now be made, would probably subject us to the reproach of premeditated deception. The balance of Mr. Adams' last loan will be wanted for the interest due in Holland, and with all the income here, will, it is feared, not save our credit in Europe from further wounds. It may well be doubted whether the present Govt. can be kept alive thro' the ensuing year, or untill the new one may take its place. (Rutland, 1977, v. 10, p. 218)

As such, the government's net asset position ( $\mathbf{A}_i - \mathbf{D}_i$ ) should be an important factor in assessing its creditworthiness. It represents a safety valve that could potentially relieve the pressure to default when the budget would unexpectedly fall into deficit, as well as provide a potential resource to draw on if the government's ability to pay off or

retire  $\mathbf{D}$  at face value became a concern to potential lenders. It is important to note that it is not the actual current revenue or contemporaneous cash flow from the sale of  $\mathbf{A}$  that matters to assessing the government's creditworthiness but  $\mathbf{A}$ 's potential salability to cover or back the government's current and future debt position that matters.

The government's budget constraint can be transformed into a model of its creditworthiness. The government's relatively low creditworthiness, or poor credit rating compared with the market, is measured as the risk spread between the interest rate the government is charged ( $\mathbf{R}_g$ ) and the rate in the marketplace on low risk loans ( $\mathbf{R}_m$ ). This risk spread is a positive function of the government's reputation failure, i.e. its record of not paying the interest on its debt, or how close  $k$  is to 1, over the recent past; a negative function of the government's expected budget surpluses ( $\text{Ex}[\mathbf{T}_{i+n} - \mathbf{G}_{i+n}]$ ); and a negative function of the government's net asset position ( $\mathbf{A}_i - \mathbf{D}_i$ ).

$$(\mathbf{R}_g - \mathbf{R}_m) = f[(\mathbf{A}_i - \mathbf{D}_i); \text{EX}(\mathbf{T}_{i+n} - \mathbf{G}_{i+n}); \sum_{i=1}^{i-n} (a_i * k_i)]$$

[Where  $\sum_{i=1}^{i-n} (a_i) = 1$ ; ( $\mathbf{R}_g - \mathbf{R}_m \geq 0$ ); and  $n =$  a number of years looking into the future ( $i + n$ ) or into the past ( $i - n$ )].

Between 1781 and 1790 the U.S. National Government made next to no interest or principal payments on the domestic portion of its debt. In effect,  $k = 1$  over the recent past so that even when the government started paying interest in full ( $k = 0$ ) after 1790, its reputation for paying the interest on its debt would not fully recover until well after 1790. Expected budget surpluses did not look promising even after 1790—even after the new constitution gave the National Government an independent power to levy taxes. The government's revenue expectations were in doubt given its inability to prevent smuggling and enforce tariff ( $t$ ) payments; in doubt given fluctuations in tariff revenues (the main

source of tax revenue) due to ubiquitous fluctuations in foreign trade ( $I_i$ ) caused in part by uncertainty in trade treaty negotiations; and in doubt given questions about the government's ability to raise other taxes ( $O_i$ ) considering the public's willingness to engage in violent large-scale tax revolts, e.g. Shay's Rebellion 1786-1787, the Whiskey Rebellion 1794, and Fries' Rebellion 1798.<sup>4</sup> As such, the net asset position of the U.S. National Government may have been especially important in this period to establishing and then sustaining its creditworthiness.

### **Were Land Assets Viewed as Backing the National Government's Debt?**

In the *Ordinance of 1784* Congress pledged the proceeds of the sale of public land solely to paying off the National Debt (Hibbard, 1939, pp. 4-5). Congress reaffirmed this pledge in the August 4, 1790 Funding Act (United States Congress, *Register of Debates in Congress (House of Representatives)*, v. 2, p. 2311),

That the proceeds of the sales which shall be made of lands in the western territory, now belonging, or that may hereafter belong, to the united states, shall be, and are hereby appropriated towards sinking or discharging the debts, for the payment whereof the United States now are, by virtue of this act may be, holden, and shall be applied solely to that use, until the said debts shall be fully satisfied.

Financiers also understood the importance of a pledge of security by the government to the backing of its debts. William Bingham, a director of the *Bank of North America*, in a letter to Alexander Hamilton, U.S. Treasury Secretary, on November 25, 1789 explained,

The Credit of the Funds [the National Debt] must essentially depend on the permanent Nature of the Security; & if that is not to be relied on, they will fall in value, the disadvantage of which, Government will experience by the payment of an exorbitant Interest, whenever it is compelled to anticipate its revenues, by the Negotiation of domestic Loans. ... If we offer a less Substantial Security, we must Submit to a consequent Depreciation in the Value of our Funds.... A Government should therefore pledge every security it can offer, to engage the Confidence of the public Creditors, which, if once impaired, the pernicious Effects can be felt in

all its future Dealings. (Syrett, 1962, v. 5, pp. 540-541)

And Hamilton in his January 1790 “Report on Public Credit” said,

It is presumable, that no country will be able to borrow of foreigners upon better terms, than the United States, because none can, perhaps, afford so good security. Our situation exposes us less, than that of any other nation, to those casualties, which are the chief causes of expense; our incumbrances, in proportion to our real means, are less, though these cannot immediately be brought so readily into action, and our progress in resources from the early state of the country, and the immense tracts of unsettled territory, must necessarily exceed that of any other. The advantages of this situation have already engaged the attention of the European money-lenders... (Syrett, 1962, v. 6, p. 89)

Lastly, many schemes to swap land for debt in large amounts were planned in the years leading up to the 1790 Funding Act. In 1787 the Ohio Company offered to purchase 1.5 million acres and the Scioto Company another 5 million acres of the public domain. In 1788 Judge John Cleves Symmes made a similar offer for 2 million acres between the Great and Little Miami Rivers.

The point is that contemporaries believed the National Government had pledged the public domain, and had the potential to sell large chunks of it if necessary, to cover and service the National Debt. But was there enough land to cover the National Debt or was the debt just too big?

### **The National Debt, 1784-1802**

Several issues need to be addressed in the construction of a yearly time series for the U.S. National Debt during this period. First, yearly evidence on the interest-bearing debt only exists for after 1790. From 1784 through 1790, these numbers must be estimated. Second, to have a consistent time series for evaluation, some estimate of state debts *pre-assumption* (pre-1791) should be incorporated as the *expected* state debts to be assumed by the National Government. Third, the non-interest-bearing debt, the

Continental Dollar, must be incorporated in some way.

What is estimated here is the face value, and not the market value or the default value, of the National Debt. This is because the key question addressed is whether the National Government was financially solvent net asset-wise given the face value of its debt. In other words, could it honor the financial obligation clause in the new Constitution? Adopted by Congress by 1789, this new *U.S. Constitution* said, “All Debts contracted and Engagements entered into before the Adoption of the Constitution, shall be as valid against the United States under this Constitution, as under the Confederation.” (Article VI).

From 1781 through 1790 the National Government had been in default on both its interest-bearing and non-interest-bearing domestic debt. These debts traded in the marketplace at far below their face value and some citizens held them as speculative investments hoping for the day when better economic times and stronger political will would honor these debts at face value. The new Constitution, not only due to the above clause but due to the enhanced taxing power given the Federal Government, gave renewed hope that these debts would be un-defaulted and paid off at face value.

Table 1 presents yearly estimates of the face value of the National Government’s liabilities from 1784 to 1802, separately for the interest-bearing and non-interest-bearing debt in both nominal and real values, as well as incorporating the “expected” [in brackets] assumption of state war debts before 1791 and the actual assumption of state war debts after 1790.

[Place Table 1 Here]

*a. Estimating the Face Value of the Interest-Bearing Debt*



The data for 1791-1802 are the official government statistics taken from the *Historical Statistics* (1975, part 2, p. 1104). For 1784-1790 these numbers are estimated as follows: \$27 million of principal at 6 percent annual interest is taken as the National Government's starting domestic debt in 1782 (Perkins, 1994, p. 213). No interest or principal was paid on this debt through 1790 so that \$27 million grew each year until reaching just over \$43 million in 1790. This algorithm yields an estimate for the domestic portion of the National Debt in 1789 of \$40,598,017. This estimate closely matches the estimate of \$40,414,086 reported by Hamilton for 1789 (Syrett, 1962, v. 6, p. 86).

To this number each year is added \$11,710,379 of foreign debt owed by the National Government (Syrett, 1962, v. 6, pp. 85-86). Interest had been paid on this debt for the most part, but no principal (Perkins, 1994, p. 213). To this number each year was also added an estimate of \$20,000,000 of expected assumption of state debts [reported in brackets underneath each number] (United States Congress, *Register of Debates in Congress (House of Representatives)*, v. 2, p. 1586 (April 21, 1790)). This estimation algorithm grafts onto and hits the starting value for the official statistics (the 1791 value) almost on the nose.

*b. Face Value of the Continental Dollars Still Outstanding from 1784 to 1790*

The total amount of Continental Dollars emitted by the National Government, the total amount withdrawn, and the time series of the outstanding balances are not exactly known. A variety of different estimates are offered in the literature. These estimates are reconciled in Appendix Table A1 by correcting errors of addition, omission, and the discrepancy over the amount of the January 14, 1779 emission that was new. The result is a single consistent estimate of \$200,000,000 Continental Dollars emitted from 1775

through 1779 and still outstanding as of 1780. Taxes to pull them out of circulation were not initiated in earnest until after 1780.

The amount of Continental Dollars (in face value) taxed out of circulation, remitted to the U.S. Treasury and burned between 1780 and 1790 under this policy are reproduced in Appendix Table A2. These sums, totaling \$119.5 million, are subtracted from the \$200 million of total emissions as of 1780 to get the time series reported in Table 1 of the face value of Continental Dollars still outstanding.

Using this estimation algorithm leaves \$80.5 million Continental Dollars still outstanding and unredeemed in 1790. Congress' guess of how many Continental Dollars were exchanged for bonds at the 100 to 1 default rate set after 1790 (by the 1790 Funding Act) was \$6 million (face value), leaving something around \$72 to \$74 million (face value) as a total loss, i.e. never funded or redeemed.

Apparently the requisition act of March 18, 1780 that set the default rate at 40 to 1 Continental Dollars to specie dollars in the payment of taxes led some citizens to hold on to Continental Dollars instead of using them to pay taxes, speculating that better days or a new political regime would redeem Continental Dollars at face value. For example, in 1784 one foreign observer noted in reference to the Continental Dollar, "At present there are many private Gentlemen holding large sums of Paper money, that is to be called in. But when this will happen, at what rate it will be redeemed, congress do not yet agree upon." (Boyd, 1953, v. 7, p. 213) As such, even by 1790, 40 percent of the Continental Dollars were still outstanding (Bullock, 1895, p. 138). The same motive led people to purchase and hold the interest-bearing debt, even though no interest had been paid for a number of years and it traded at 20 cents on the dollar in the marketplace. They were

speculating that better days or a new political regime would redeem the interest-bearing debt at face value.

Under the Funding Act of August 4, 1790, Hamilton and Congress thrilled the speculators in the interest-bearing debt by making interest payments on this debt's face value for the current holders of the debt. They, however, disappointed the speculators in Continental Dollars by not only not un-defaulting the Continental Dollar but by increasing the default rate under which the National Government would accept Continental Dollars to 100 Continental Dollars for 1 dollar in interest-bearing bonds. Only \$6 million, of the \$80 million, Continental Dollars still outstanding in 1790 were so exchanged at that default rate between 1791 and 1797—when the exchange program was discontinued. “The rest [\$74 million] seems to have remained in the hands of people who held it after the time fixed by the funding act, hoping that ultimately the notes would be redeemed in full.” (Bullock, 1895, p. 138) After 1797, however, they would be disappointed and nothing would be received.

### **The National Government's Land Assets, 1784-1802**

Estimating the amount of acres the National Government possessed and their value year by year over this period is not straightforward. First, the cession of lands from the states to the National Government did not occur all at once, but at different times by different states from 1781 through 1802. In addition, some state land claims overlapped with other states, and some land had already been alienated before being ceded or was conditionally retained by the ceding state, see Figure 1 and the notes to Table 2. The evidence in the original sources is not organized as a net transfer of land year by year to the National Government. As such, the evidence has to be resorted and closely

interpreted to estimate the net saleable land possessed by the National Government year by year over this period, see Table 2.

[Place Figure 1 Here]

[Place Table 2 here]

By 1787, of the 222 million acres that would be ceded by the states to the National Government, roughly 75 percent had been so ceded. The remaining 25 percent would not be ceded until 1802 (by Georgia). The National Government also sold a small portion of the public domain between 1784 and 1802. These transfers are identified by year of sale and subtracted from the total remaining available for sale. The public domain, net of sales, that was still in the possession of the National Government and potentially saleable was 106 million acres when the Treaty of Paris recognized U.S. sovereignty in 1784. It grew to 164 million acres by 1787, the year the Founding Fathers crafted a new *U.S. Constitution*. It more or less stayed at that level until 1802 when it grew to 220 million acres with the completion of the land cession by Georgia.

The difficult issue is how to assign a value to these land assets for the purpose of calculating a net asset position. Several approximations will be used. First, given that the true average price per acre of the public domain is unknown, the data in Tables 1 and 2 are used to back out what the average price would have to be for the National Government to be just solvent. This first approximation is reported in Table 3.

[Place Table 3 Here]

Looking just at the interest-bearing debt [including the assumption of state debts], if the average price per acre of the public domain was \$0.50, then between 1785 and 1802 the National Government was solvent in terms of having assets equal to or in excess of

the value of its debt. By 1802 this price would only have to be \$0.35 per acre. As argued below, this price looks within the likely range of what the true average was.

By contrast, looking at the total interest-bearing plus non-interest-bearing debt [including the assumption of state debts], if the average price of the public domain was between \$0.93 and \$1.02 an acre, then between 1786 and 1790 the National Government would just be solvent. If the expected assumption of state debts are excluded then this number would be between \$0.81 and \$0.89. As argued below, both these sets of prices appear on the high side of the likely range of what the true average was.

Thus, as a first approximation, the National Government would appear to be solvent only if the non-interest-bearing debt—the Continental Dollar—is eliminated, such as through Congress' 1790 reaffirmation of its absolute unwillingness to un-default it. The inclusion or exclusion of the expected assumption of state debts between 1784 and 1791 does not matter much. The National Government appears solvent in either case. The key to solvency was writing the non-interest-bearing debt off the ledger.

Table 4 refines this first approximation by using average prices per acre of the public domain that were actually mentioned and used at the time. This yields a “high to low” range for the value of the public domain. With the exception of the lowest price reported in Table 4—discussed below, the other prices are for actual sales of large tract of the public domain. Because land is extremely heterogeneous, only the sale of large tracts can give some reassurance that the average price observed is close to a true average price. Because these prices are reported for a specific year and given that prices fluctuate over this period, Table 4 inflation-adjusts them to get time series of average prices per acre.

[Place Table 4 Here]

The lowest price series based on a large transfer, and what will be used hereafter as the “Best Guess Conservative Estimate,” is for the Erie Triangle land transfer to Pennsylvania in 1792 [202,187 acres for \$151,640 or an average price of \$0.75 an acre]. In the same inflation-adjusted range would be the average price of all public domain sold prior to 1800 [1,281,860 acres for \$1,050,085, i.e. \$0.82 an acre], and the proposed 1 million acre sale to Symmes in 1788 at \$0.67 an acre. By contrast, the highest overall inflation-adjusted price series comes from the cash sale of 72,974 acres for \$117,108 or \$1.60 an acre on average in 1787 at New York City. While this was a cash sale, it also was small and selective, and so might only capture more highly valued acres.

The official minimum price set by Congress (which was not strictly adhered to) for purchasing the public domain, which had to be purchased in large tracts—i.e. a minimum purchase of a 640 acre lot, was \$1.00/acre in 1785, raised to \$2.00/acre in 1796, and then lowered to \$1.25/acre in 1820. If these prices are inflation adjusted from the year they were enacted back, they are all pretty much identical at \$1.00/acre in 1785 dollars.<sup>5</sup> On balance, the time series of real prices based on the nominal \$2.00/acre enacted in 1796 yields the highest price series among the official minimum prices enacted by Congress. An average price of \$1.00/acre in 1785 or \$2.00/acre in 1796 (inflation-adjusted), therefore, would not necessarily be out-of-bounds for estimating the value of the public domain. However, the slowness of sales at these official prices suggests that these prices were on the high side of what was the true average price of the public domain.<sup>6</sup> As such, the 1796 inflation-adjusted price of \$2.00/acre will be used as the upper range estimate of the value of the public domain.

Finally, for heuristic purposes a low estimate of \$0.30 an acre is also reported.

This price does not come from an actual sale, but is the price that Hamilton proposed for extinguishing some of the principal of the National Debt by swapping it for western lands in his “Plan for the Disposition of the Public Lands” sent to Congress July 22, 1790.

Hamilton also mentioned a price of \$0.20 an acre in his January 1790 “Report on Public Credit.” Hamilton combined two observations to deduce this land price. First, some of the public domain had been sold for \$1.00 an acre which could be paid for either in specie or in public debt at its face value. Second, the public debt, because it was in de facto default, had been trading for \$0.20 to \$0.30 per dollar of face value. Thus, Hamilton deduced that the price of an acre of land was not \$1.00 as announced but really only \$0.20 to \$0.30.

Hamilton’s deduction, however, is arbitrage inconsistent. Either anyone paying specie for land at the \$1.00 per acre price was a fool or anyone selling their public debt for \$0.30 per dollar of face value was a fool. Something is not right here, and Hamilton’s price should be used with caution. Hamilton may have been intentionally undervaluing the price of land in his rhetoric to dissuade Congress from using land to pay off debts and to persuade them to go with his plan to turn the debt into callable perpetuities by only paying the interest due using tariff revenue. Alternatively, he may just have been honestly in error about land prices. Hamilton’s rhetorical argumentation often has such a disingenuous tone that it hard to say. As such, it may be important to estimate the value of the National Government’s land assets using Hamilton’s land price in the off chance that he truly believed that that was the average price of an acre of the public domain.

### **The Net Asset Position of the National Government, 1784-1802**

Table 6 combines the information in Tables 1, 2, and 4 to estimate the net asset position of the National Government from 1784 through 1802. It does so separately for

just the interest-bearing portion of the National Debt as well as for the combined interest-bearing and non-interest-bearing debt, including an estimate both with and without the expected assumption of state debts between 1784 and 1790 [in brackets for the former].

[Place Table 6 Here]

*a. Regarding the Interest-bearing Debt Only:*

At Hamilton's price of \$0.30/acre at no time prior was the National Government solvent if it assumed state debts. Prior to the assumption of state debts (pre-1791), the National Government, sans state debts, was marginally solvent from 1785 through 1787 and marginally insolvent from 1788 through 1790. Hamilton's insistence on the assumption of state debts in his 1790 funding plan, while arguably a politically savvy move, was financially reckless given his land price estimate—pushing the National Government into a substantially insolvent position. Using Hamilton's land price would also indicate that the good credit rating the U.S. garnered in Europe by the 1790s was not due to its net asset position. So perhaps Hamilton's reckless plan was saved by a miracle.

However, Hamilton's land price, as argued above, seems excessively low by all the other evidence that exists. Hamilton may have been intentionally low-balling the price of land in his rhetoric to dissuade some members of Congress from seriously considering swapping land for debt. Why this might have been a necessary, intentional, and clever strategy, and not just an honest mistake, will be addressed below.

If the "Best Guess Conservative Estimate" of \$0.75 an acre is used as the average price of the public domain, then the National Government was substantially solvent throughout the period vis-à-vis its interest-bearing debt even with the expected assumption of state debts. As such, the assumption of state debts was not a reckless



financial act. And the good credit rating the U.S. garnered in Europe by the mid-1790s may have had as much to do with its positive net asset position as with Hamilton's funding plan. Under this interpretation Hamilton's debt-funding plan basically just solved the cash flow problem—raising annual tax revenues high enough to meet annual interest payments due on the face value of the debt—a miracle of sorts, but not incomprehensible.

*b. Regarding the Combined Interest-bearing and Non-interest-bearing Debt:*

Between 1784 and 1791, adding the face value of the non-interest-bearing debt to that of the interest-bearing National and to-be-assumed state debts, the National Government was substantially insolvent when using the “Best Guess Conservative Estimate” of \$0.75 an acre for the price of the public domain. The average price of the public domain would have to be over \$0.90 an acre for it to be just solvent, an average land price which seems unlikely for this period. Even at the high estimate of \$2.00 an acre in 1796, the National Government was still insolvent in 1788 and 1789 if it assumed state debts. But the assumption of states debts was not the big issue. The government's net asset position was overwhelmed by the size of the non-interest-bearing debt.

In addition, given that tax revenues after 1790 were barely enough to pay the interest (and no principal) on the interest-bearing debt, converting the non-interest-bearing debt into callable perpetuities paying 6 percent annually on its face value was outside the yearly revenue capabilities of the National Government. Doing so would have doubled the annual interest payment of the National Government, pushing interest payments on the National Debt from approximately 30 percent to something like 60 percent of annual revenue—which would have been an unsustainable position.

The outstanding non-interest-bearing debt (the Continental Dollar) was the

“gorilla in the closet.” By necessity the National Government had to default on it—which is what it did as part of the funding aspect of the financial revolution. In 1790, Hamilton advised reaffirming the old default rate of 40 to 1 set by Congress in 1781, but Congress opted for reaffirming the default at an even higher rate, namely at 100 to 1. Citizens holding Continental Dollars hoping that they would be un-defaulted and paid off at face value as Congress was about to do with the domestic interest-bearing debt were mightily disappointed.

Paying off the non-interest-bearing debt at 40 to 1 or at 100 to 1 probably didn’t matter to the government’s creditworthiness. It was a massive default in either case. And the 100-to-1-exchange was not for principal, but for interest-bearing bonds only. At 40 to 1, the face value of the non-interest-bearing debt would be reduced to \$2 million and, at 100 to 1 to \$0.81 million. Even if all the outstanding Continental Dollars were turned in, the National Government would become substantial solvent with either default algorithm. The decision to reaffirm the default the Continental Dollar in 1790 was necessary to put the National Government back into a solvent position thereafter. But this required credibly distinguishing between its interest-bearing debt over which it was solvent and could fund interest payments in perpetuity out of tariff revenue, and its non-interest-bearing over which it was insolvent and had to default.

### **Conclusions**

In 1790, the new Federal Government had to maintain the default on the Continental Dollar—the non-interest-bearing part of the National Debt it inherited from the *Confederation* period. But how could it do so without destroying its creditworthiness? The key was to legally and financially distinguish between the interest-bearing and the

non-interest-bearing debt, and doing so determined the structure of the debt-funding part of the financial revolution.

At the Constitutional Convention in 1787 the Founding Fathers explicitly voted not to give the new Federal Government the power to emit additional non-interest-bearing debt, i.e. bills of credit. Thus, the new Constitution distinguished between the Federal Government's interest-bearing debt—which it could continue to issue anew, and its non-interest-bearing debt—which it was no longer allowed to issue anew. But while this Constitutional distinction may have been a necessary condition, it was not a sufficient condition for preventing the default on the Continental Dollar from damaging the Federal Government's creditworthiness.

If the National Government paid any principal at face value, it could not credibly distinguish between its interest-bearing and its non-interest-bearing debt legally or in the marketplace. To default on the Continental Dollar without hurting its creditworthiness, it had to fund its debt in a way that paid no principal. The answer was to pay interest on the debt only. Since the Continental Dollar paid no interest, no funding provisions were required. This may explain why Hamilton devised a funding plan that turned the interest-bearing debt into callable perpetuities, and why the Continental Dollar was redeemed for bonds and not for cash.

The National Government also had to curtail direct swaps of land for debt, because such swaps were payments of principal—at least until after the funding plan was established and after the default on the Continental Dollar had been successfully closed (post-1797). As such, Hamilton's failure to report on proposed land-for-debt swaps in 1790 and his excessively low land price used in his reports to Congress in 1790 may have

been intentional. He wanted to dissuade members of Congress from funding schemes that might involve swaps of land for debt which in turn would dissolve the distinction between the interest and the non-interest-bearing debt.

As such, the debt-funding aspect of the financial revolution is both less impressive and more complex than typically thought. In one sense, Hamilton's contribution to solving the National Government's financial situation was trivial—merely solving the immediate cash-flow revenue problem by meeting yearly interest payments on the debt via the Hamiltonian tariff. The long-run solvency problem was already solved by the *spoils of war*—the U.S. National Government's acquisition of land assets. But this debt-funding aspect of the financial revolution would have been all for naught if they could not find a way to permanently default on the Continental Dollar with impunity.

The genius of the U.S. financial revolution and its architects (Hamilton and the majority in Congress) was in recognizing that they had to legally and financially find a way to distinguish between the interest-bearing and the non-interest-bearing debt, and default on the latter without hurting the National Government's creditworthiness over the former. Their choices successfully put the gorilla in the closet, and the constraints of doing this explains the structure of the financial revolution enacted. The result was that the U.S. garnered an excellent credit rating in Europe soon after 1790 because it only had interest-bearing debt left. And its ability, in terms of actual tariff revenue and potential revenue from saleable land assets, to meet the interest payment on this debt was well in excess of what was needed. It was substantially solvent net asset-wise post-1790.

References [cut to save space]

Figure 1. Land Ceded to the National Government by the 13 Original States

Source: Stephenson (1934, p. 248).



**Table 1. The Value of U.S. National Government Liabilities, 1784-1802**

Year	Face Value of National Interest- Bearing Debt in Nominal Dollars Including [Expected] And Actual Assumption Of State Debts (Interest and Principal)	Bezanson's (1936, pp. 392-393) 140- Commodity Price Index for Philadelphia	Value of National Interest- Bearing Debt in Deflated Real Dollars Including [Expected] and Actual Assumption Of State Debts (Interest and Principal)	Paper Fiat Money Debt: Face Value of National Non-Interest-Bearing Continental Dollar Currency "Debt" Still Outstanding (in Dollars)	
	(1)	(2)	(3)	Nominal (4)	Deflated Real (5)
1784	42,047,579 [62,047,579]	100.1	42,005,573 [61,985,593]	119,728,392	119,608,783
1785	43,867,811 [63,867,811]	94.1	46,618,290 [67,883,219]	119,728,392	127,235,273
1786	45,797,257 [65,797,257]	91.0	50,326,656 [72,304,678]	99,295,015	109,115,401
1787	47,842,470 [67,842,470]	88.4	54,120,441 [76,744,875]	93,606,254	105,889,428
1788	50,010,395 [70,010,395]	83.3	60,036,489 [84,046,092]	85,604,491	102,766,496
1789	52,308,396 [72,308,396]	82.4	63,481,063 [87,046,907]	80,537,630	97,739,842
1790	54,744,277 [74,744,277]	86.5	63,288,182 [86,409,568]	80,537,630	93,107,087
1791	77,228,000	89.7	86,095,875	[Hereafter subsumed into the interest-bearing National Debt in the infamous 100 to 1 forced swap for bonds. Only about \$6 million were so swapped leaving about \$74.5 million out and not redeemed or funded.]	
1792	80,359,000	91.5	87,824,043		
1793	78,427,000	96.3	81,440,290		
1794	80,748,000	109.6	73,675,182		
1795	83,762,000	130.7	64,087,222		
1796	82,064,000	139.1	58,996,405		
1797	79,229,000	133.5	59,347,565		
1798	78,409,000	127.1	61,690,794		
1799	82,976,000	127.3	65,181,461		
1800	83,038,000	128.3	64,721,745		
1801	80,713,000	131.9	61,192,570		
1802	77,055,000	122.5	62,902,040		

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*Notes and Sources:* Column (1): Data for 1791-1802 are the official government statistics taken from the *Historical Statistics* (1975, part 2, p. 1104). For 1784-1790 this number is estimated as follows that described in the text. Column (2) is taken from Bezanson (1936, p. 392). Column (3) equals Column (1) / [Column (2) \* 0.01]. Column (4) starts with the total of \$200,000,000 Continental Dollars emitted through 1779. See Appendix Table A1. From this total is subtracted the amount of Continental Dollars paid into the U.S. Treasury and burnt between 1780 and 1790 (Elliot, 1843-44, pp. 73-76). See Appendix Table A2. This leaves roughly \$80.5 million outstanding in 1790, which is close to the U.S. Treasury's guess of \$78 to \$80 million still unredeemed and unfunded in 1791 (Elliot, 1843-44, p. 12, item #3). The Treasury's guess of how many were exchange for bonds at 100 to 1 after 1790 was \$6 million, leaving something around \$72 to \$74 million as a total loss—never funded or redeemed (Elliot, 1843-44, p. 12, item #4). Column (5) equals Column (4) / [Column (2) \* 0.01].

**Table 2. U.S. National Government Land Assets: The Net Saleable Public Domain, 1784-1802**

Year	Accumulated Total National Public Domain (Cession Of Western Lands Claimed by the Original 13 States) <i>In Acres</i> (1)	Public Domain Sold by the U.S. National Government <i>In Acres</i> (2)	Total Net Saleable Public Domain in the Possession of the U.S. National Government <i>In Acres</i> (3)
1784	105,801,867		105,801,867
1785	140,361,867		140,361,867
1786	162,161,867		162,161,867
1787	165,297,867	895,874	164,401,993
1788	165,297,867	248,540	164,153,453
1789	165,297,867		164,153,453
1790	165,297,867		164,153,453
1791	165,297,867		164,153,453
1792	165,297,867	202,187	163,951,266
1793	165,297,867		163,951,266
1794	165,297,867		163,951,266
1795	165,297,867		163,951,266
1796	165,297,867	43,446	163,907,820
1797	165,297,867		163,907,820
1798	165,297,867		163,907,820
1799	165,297,867		163,907,820
1800	165,297,867	67,751	163,840,069
1801	165,297,867	497,939	163,342,130
1802	221,987,787	271,081	219,760,969

*Notes and Sources:* Column (1) is derived from Donaldson (1884, p. 11); Gates (1968, p. 57); Hibbard (1939, p. 13). Hibbard's low number for Virginia is used as it appears to accounts for some additional restrictions on land transfers that Donaldson and Gates seem to miss. North Carolina's cession of



29,184,000 acres in 1790 was not counted as most of this land, being in Tennessee, had already been alienated. The time path of accumulation of acres was organized by using the year of each state's cession for the portion of land that was undisputed by other states, and for disputed lands among several states by using the latest year of cession among the states claiming that land. Virginia's military tract and the Western Reserve were excluded. Figuring out both the total and the time path of land acquisition from these sources is not an obvious exercise. The data must be resorted and so these figures must be regarded as estimates. For example, between 1781 and 1802 total National land acquisition in acres is given as 267,730,560 by Hibbard (1939, p. 31); 259,171,787 by Donaldson (1884, p. 11); 233,416,000 by the *Historical Statistics* (1975, part 1, p. 428); 233,415,680 by Gates (1968, p. 86); 224,975,200 by Gates (1968, p. 57). Thus, the numbers given here could be considered a conservatively low estimate.

Column (2) is derived from Donaldson (1884, p. 17) and Hibbard (1939, pp. 55, 100). Hibbard's adjustment to Donaldson's numbers regarding the size and dating of some sales is used.

Column (3) is Column (1) after netting out the lands sold in Column (2).

**Table 3. Average Land Price per Acre That Would Yield a Zero Net Asset Position Each Year for The U.S. National Government, 1784-1802 (Nominal Dollars)**

Year	<i>Interest-Bearing Debt Only</i> [Plus Expected Assumption of State Debts]	<i>Interest and Non-Interest-Bearing Debt</i> [Plus Expected Assumption of State Debts]
1784	\$0.40 [0.59]	\$1.53 [1.72]
1785	0.31 [0.46]	1.17 [1.31]
1786	0.28 [0.41]	0.89 [1.02]
1787	0.29 [0.41]	0.86 [0.98]
1788	0.30 [0.43]	0.83 [0.95]
1789	0.32 [0.44]	0.81 [0.93]
1790	0.33 [0.46]	0.82 [0.95]
1791	0.47	
1792	0.49	
1793	0.48	
1794	0.49	
1795	0.51	
1796	0.50	
1797	0.48	
1798	0.48	
1799	0.51	
1800	0.51	
1801	0.49	
1802	0.35	

*Notes and Sources:* Table 1 column (1) divided by Table 2 column (3) and Table 1 columns [(1) + (4)] divided by Table 2 column (3), respectively.

**Table 4. Inflation-Adjusted Nominal Price Per Acre of U.S. National Government Land, 1784-1802**

	\$0.30 An Acre In 1790	\$0.75 An Acre In 1792	\$1.00 An Acre In 1785	\$1.25 An Acre In 1820	\$1.60 An Acre In 1787	\$2.00 An Acre In 1796
1784	0.34	0.81	1.06	1.17	1.79	1.22
1785	0.32	0.77	1.00*	1.09	1.69	1.10
1786	0.31	0.75	0.97	1.06	1.64	1.04
1787	0.31	0.73	0.94	1.02	1.60*	0.99
1788	0.29	0.69	0.89	0.96	1.52	0.88
1789	0.29	0.68	0.88	0.95	1.50	0.87
1790	0.30*	0.71	0.92	1.00	1.57	0.95
1791	0.31	0.74	0.96	1.04	1.62	1.01
1792	0.32	0.75*	0.97	1.06	1.65	1.05
1793	0.33	0.79	1.02	1.12	1.73	1.14
1794	0.37	0.89	1.16	1.29	1.94	1.41
1795	0.43	1.04	1.37	1.55	2.28	1.83
1796	0.46	1.11	1.45	1.66	2.41	2.00*
1797	0.44	1.07	1.39	1.59	2.32	1.89
1798	0.42	1.02	1.33	1.51	2.22	1.76
1799	0.42	1.02	1.33	1.51	2.22	1.76
1800	0.43	1.03	1.34	1.52	2.24	1.78
1801	0.44	1.05	1.38	1.57	2.30	1.86
1802	0.41	0.98	1.28	1.45	2.15	1.67

*Notes and Sources:* The nominal prices listed are inflated/deflated over time using the Bezanson (1936, pp. 392-393) 140-Commodity Price Index by taking the nominal price as reported for its given year as the true value for that year of an average acre of public land. This price is then taken as equal to 100 for the price index and the Bezanson price index is renormalized to that year. By multiplying that price by its particular renormalized price index (times 0.01) this nominal price is inflation/deflation-adjusted to other years.

\* indicates the year the nominal price was observed.

The \$0.30 price is from Hamilton's July 20, 1790 "Plan for the Disposition of the Public Lands," sent to Congress July 22, 1790 (Donaldson, 1884, pp. 198-199).

The \$0.75 price is from the actual sale of a large seemingly representative block of land in 1792—the average price for the Erie Triangle land transfer to Pennsylvania (202,187 acres for \$151,640, see Donaldson (1884, pp. 17, 198)).

The \$1.00 price is Congress' minimum price per acre set in the land ordinance of 1785 which held until it was changed to \$2.00 an acre in 1796 (Donaldson, 1884, p. 197; Hibbard, 1939, pp. 37-41).

The \$1.25 price is the official minimum land sale price set by Congress in 1820 (Donaldson, 1884, p. 205; Gates, 1968, pp. 127, 140-142; Hibbard, 1939, pp. 63-64).

The \$1.60 price comes from the average price realized on the cash sale of 72,974 acres for \$117,108 in 1787 at New York City (see Donaldson, 1884, p. 17).

Lastly, the \$2.00 price is the official minimum land sale price set by Congress in 1796 through 1820 (see Donaldson, 1884, pp. 200-201; Gates, 1968, pp. 125-133).

**Table 6. The Net Asset Position of the U.S. National Government, 1784-1802 (Nominal Dollars)**

Year	<i>Interest-Bearing Debt Only</i>			<i>Interest and Non-Interest-Bearing Debt</i>		
	[Plus Expected Assumption of State Debts]			[Plus Expected Assumption of State Debts]		
	Hamilton's	Best Guess	\$2/Acre	Hamilton's	Best Guess	\$2/Acre
	Low	Conservative	High	Low	Conservative	High
Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	
1784	-6,074,944 [-26,074,944]	+43,651,933 [+23,651,933]	+87,030,699 [+67,030,699]	-125,803,336 [-145,803,336]	-76,076,459 [-96,076,459]	-32,697,693 [-52,697,693]
1785	+1,047,986 [-18,952,014]	+64,210,827 [+44,210,827]	+110,530,243 [+90,530,243]	-118,680,406 [-138,680,406]	-55,517,565 [-75,517,565]	-9,198,149 [-29,198,149]
1786	+4,472,922 [-15,527,078]	+75,824,143 [+55,824,143]	+122,851,085 [+102,851,085]	-94,822,093 [-114,822,093]	-23,470,872 [-43,470,872]	+23,556,070 [+3,556,070]
1787	+3,122,148 [-16,877,852]	+72,170,985 [+52,170,985]	+114,915,503 [+94,915,503]	-90,484,106 [-110,484,106]	-21,435,269 [-41,435,269]	+21,309,249 [+1,309,249]
1788	-2,405,894 [-22,405,894]	+63,255,488 [+43,255,488]	+94,444,644 [+74,444,644]	-88,010,385 [-108,010,385]	-22,349,003 [-42,349,003]	+8,840,153 [-11,159,847]
1789	-4,703,895 [-24,703,895]	+59,315,952 [+39,315,952]	+90,505,108 [+70,505,108]	-85,241,525 [-105,241,525]	-21,221,678 [-41,221,678]	+9,967,478 [-10,032,522]
1790	-5,498,241 [-25,498,241]	+61,804,675 [+41,804,675]	+101,201,503 [+81,201,503]	-86,035,871 [-106,035,871]	-18,732,955 [-38,732,955]	+20,663,873 [+663,873]
1791	-26,340,430	+44,245,555	+88,566,988	[Hereafter, the non-interest-bearing debt is defaulted on at 100 to 1 and added to the interest-bearing debt.]		
1792	-27,894,595	+42,604,450	+91,789,829			
1793	-24,323,082	+51,094,500	+108,477,443			
1794	-20,086,032	+50,413,013	+150,423,285			
1795	-13,262,956	+86,747,317	+216,268,817			
1796	-6,666,403	+99,873,680	+245,751,640			
1797	-7,109,559	+96,152,367	+230,556,780			
1798	-9,567,716	+88,956,976	+210,068,763			
1799	-14,134,716	+84,209,976	+205,501,763			
1800	-12,586,770	+85,717,271	+208,597,323			
1801	-8,842,463	+90,796,237	+223,103,362			
1802	+13,046,997	+138,310,750	+289,945,818			

*Notes and Sources:* The net asset position equals the values in Tables 2 times those in Table 4 minus the nominal values in Table 1 Columns 1 and 4 for each year. The *Low Estimate* uses Hamilton's \$0.30 price per acre. The *Best Guess Conservative Estimate* uses the \$0.75 price per acre. The *High Estimate* uses the \$2.00 price per acre. See the notes to Table 4 and the text for discussion. The *Interest and Non-Interest-Bearing Debt* includes the nominal face value of the Continental Dollar Fiat Currency added to the interest-bearing debt.

## APPENDIX

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**Footnotes**


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<sup>1</sup> William Bingham, a director of the *Bank of North America*, to Alexander Hamilton, U.S. Treasury Secretary, November 25, 1789. (Syrett, 1962, v. 5, p. 554)

<sup>2</sup> As a sovereign entity the U.S. National Government could not be forced to liquidate its assets to pay off its debts when in default like a private business. Nevertheless, default is costly to sovereign entities in terms of lost reputation, credit rating, and access to borrowing in the future—a cost that the potential sale of capital assets could avert.

<sup>3</sup> Debt liabilities (**D**) include both interest-bearing bonds (**B**) and non-interest-bearing bills of credit, or fiat paper money (**M**), i.e.  $D = B + M$ . The National Government did not issue new **M** after 1779 and the new *U.S. Constitution*, by convention vote in 1787, prohibited the Federal Government from issuing new **M** thereafter (Farrand, 1996, v. 2, pp. 308-310; Grubb 2006). As such, only the **B** portion of **D** factors into **G**. Paying down or retiring any of the face value of the principal, either of **B** or **M**, without liquidating assets, however, would still require a current-year budget surplus ( $T - G > 0$ ). As such, distinguishing between **B** and **M** in the model is not necessary, except with regard to whether the mass of **M** issued prior to 1780 that was still outstanding in this era as part of **D** could potentially be retired by the National Government at face value.

<sup>4</sup> On the inability of the government to escape chronic budget deficits, see Taylor (1950, p. 5); on Shay's Rebellion, see Richards (2002) and Szatmary (1980); on the Whiskey Rebellion, see Bouton (1996), Tindall (1988, pp. 320-321), and Syrett (1972, v.

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17, pp. 2-6, 9-58, 61-72, 77-78); and on Fries' Rebellion, see Tindall (1988, pp. 333-334). All three rebellions were tax revolts that involved calling out the regular army on a substantial scale to confront its own citizens. The Whiskey Rebellion witnessed the only time a sitting U.S. President as commander-in-chief has taken the field at the head of an army. The Founding Fathers were aware that public resistance was a constraint on raising new taxes. In late 1789 James Madison, congressman from Virginia, wrote to Alexander Hamilton, the Secretary of the Treasury, that, "In my opinion, in considering plans for the increase of our revenue, the difficulty lies, not so much in the want of objects as in the prejudices which may be feared with regard to almost every object. The Question is very much What further taxes will be *least* unpopular?" (Syrett, 1962, v. 5, p. 439) Hamilton may have doubted the government's ability to raise enough revenue to meet expenses. In late 1789 as Secretary of the Treasury he broached the possibility of quietly approaching the French to see "...if the installments of the Principal of the debt [the U.S. owed France] could be suspended for a few years, [as] it would be a valuable accommodation to the U.S." (Syrett, 1962, v. 5, pp. 426, 429) Letters between Hamilton, as Secretary of the Treasury overseeing the tariff revenue tax, and his port agents often alluded to the problem of smuggling, the difficulty of enforcing the tariff, and the difficulty of collecting tariff revenues. As one customs officer put it in late 1789, "The difficulties that have occurred in the Execution of the laws respecting the Customs have been infinite, and present themselves daily. The System itself is the most complicated and embarrassing of anything that has employed my attention...[and] the Owners pay with reluctance...others not at all without compulsion; and the law provides none." (Syrett, 1962, v. 5, pp. 422, 427, 459-464; 1972, v. 17, pp. 6-7) Hamilton must have expected



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revenue shortfalls from the tariff as he busily suggested additional taxes, such as the Whiskey Tax advocated in his December 13, 1790 “Second Report on Public Credit” which in turn sparked the rebellion in 1794 (Tindall, 1988, pp. 301, 320). Finally, the yearly value of imports (the principal revenue source of the National Government via the tariff) fluctuated substantially during this period making future government revenues uncertain, see North (1966, pp. 19-32, 228). Regarding problems with trade treaties in this period, see Tindall (1988, pp. 316-318, 330-331); Madison in 1786 on “...the present anarchy of our commerce...” (Rutland, 1973, v. 8, pp. 502-503); and Hamilton’s 1794 letter to President George Washington (Syrett, 1972, v. 16, pp. 261-279).

<sup>5</sup> Interestingly, the sale of the Chickasaw Trust Lands from 1836 through 1850 (4,025,395 acres for \$3,326,404) yields an average nominal price of \$0.83 an acre which when deflation-adjusted back to 1785 would be approximately \$1.00 an acre (Gates, 1968, p. 186; Bezanson, 1936, p. 392).

<sup>6</sup> Part of the slowness of sale of the public domain early on may have been due to the several states that had retained significant western and northern lands outbidding the National Government for settlers by pricing their lands under that set by the National Government for the public domain (Gates, 1968, p. 128; Robbins, 1942, p. 9).