

# Why did Massachusetts Invent Modern Currency?

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## Abstract

In 1690 Massachusetts issued what seemed to be a private-type credit instrument. In fact it was the first inconvertible, legal tender paper money. The unique political considerations of that inter-charter period did not allow the provisional government to support the money in standard ways, such as backing by land, an explicit full legal tender status, or general forced use of the money. The legislature relied instead on the history of local monetary law as an indicator that these features were not necessary, and it also used a seemingly irrelevant commodity money act as a partial substitute. That act – so far ignored by historians – explains precisely the market discount on the notes.

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An updated version is available at <http://econweb.tamu.edu/dgoldberg/research/MA.pdf>

“Monetary innovation, the development of new forms of money, has not received much systematic study from economic historians.”

Richard Sylla (1982)

## 1. Introduction

In 1690 Massachusetts became the first English North American colony to issue paper money<sup>1</sup>. The story of that money has been repeatedly told by historians, largely following Cotton Mather<sup>2</sup>. Massachusetts tried to occupy Quebec and the expected loot was supposed to pay for the expenses. When the expedition failed, the colony had to pay the troops somehow. It resorted to paper money and forced *only* the colony’s Treasury to accept it (for tax payments). The money immediately fell to a discount of about one third, but quickly recovered to par. Mather attributes the discount to the government’s uncertain future. A look at the act and the notes themselves reveals that the notes were also convertible into whatever “stock” (i.e., specie or goods) was in the Treasury.

The money’s extremely lax legal status was unprecedented. The colony took obligations upon itself regarding the money, but – according to this standard account – did not force the money *in any way* on the people. Nobody, including the troops, had to accept it or use it at all, except for the Treasury. It would have been puzzling enough for any government at any time, but all the more so for a highly regulating government facing an existential crisis. Based on its legislative record in general, and that of wartime

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<sup>1</sup> Contrary to common claims it was not the first government-issued paper money in the world, in the West, in America, or in the English Empire. See Goldberg (2006a) for details.

<sup>2</sup> Mather (1697), pp. 41-5. For other contemporary accounts see Goldberg (2006b), where one of them is exposed as a forgery. Historians who followed these accounts uncritically include Hutchinson (1765), Palfrey (1859), Parkman (1877), Weeden (1890), Davis (1901, 1910), Bailyn (1955), and Newell (1998).

in particular<sup>3</sup>, we should have expected Massachusetts to force the use of the notes in all transactions, as had been done with almost every previous paper money in history<sup>4</sup>. At the very least, we should have expected a full legal tender status, i.e., forcing the notes on the troops and suppliers who were the government's creditors. And if the government decided to follow the example of local private paper moneys of the 1680s, as some historians argue<sup>5</sup>, why wasn't the money backed by land like those moneys?

The answer lies in the political problems facing the Massachusetts legislature. It had lost its original charter six years earlier for behaving too independently and assuming royal powers, such as minting its own legal tender coins. Creating a legal tender paper money was the least appropriate thing to do while the colony's agents in London were lobbying for a new generous charter. Also, last time they had checked, all the land in the colony belonged to the king, according to the decision of the last royal governor. Since this decision had not yet been overruled by the king, using his land for backing the colony's notes would have been risky.

The legislature found two partial substitutes. One was to try to guarantee the value of the notes by accepting them for taxes. Following its long experience with various types of money, the General Court knew well the power of this mechanism in promoting the value of any object which was used for tax payments. A second measure was an act that made grain legal tender for government debts, but with one third abated. By thus punishing those troops who refused to accept paper money for their wages, this other act indirectly

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<sup>3</sup> During that war the government restricted free press (Steele, 1986, pp. 146-7) and marine trade (Moody and Simmons, 1988, henceforth M-S, pp. 186-7, 254, 261, 321, 350).

<sup>4</sup> The money of Antigua (1669-1675) was the only exception (Goldberg, 2006a). Massachusetts did know at least about the Canadian money of 1685 (Goldberg, 2006a).

<sup>5</sup> Weeden, p. 330, Davis (1910), vol. I, p. 26, Nettels (1934), p. 250.

made the paper money – to some extent – legal tender for debts. This indirect measure indeed remained hidden from the king (and from historians). It also determined that the equilibrium market discount on the notes would be one third.

On the face of it the 1690 paper money was receivable for taxes, convertible into specie and goods when feasible, and not imposed at all on people. It *looked* like a private credit instrument that happened to be issued by a government. In fact, it was much closer to having a full legal tender status than believed, and the convertibility feature was meaningless. Thus, and since its general use in trade was not mandatory, it foreshadowed the currency used everywhere in the world since the 1930s.

The rest of the paper is organized as follows. Section 2 reviews the paper money act and traces the origins and logic of its main provisions. The missing provisions regarding a full legal tender status and land backing are discussed in Sections 3 and 4, respectively. The neglected commodity money act and its effect on the discount are discussed in Sections 5 and 6, respectively. Section 7 concludes.

## **2. The Paper Money Act**

In November 1690 the troops got debentures which stated how much money the colony owed each one of them. The first prototype of paper money bears the date December 10<sup>th</sup>, which is when the General Court started a session, but the act did not pass both houses until the session's last day, December 24<sup>th</sup>. It authorized a five men committee to give

bills ... unto all such persons who shall desire the same, to whom the Colony is indebted for such sum or sums of money as they shall have debentures ... every of which bills according to the sums therein expressed shall be of equal value with money, and the Treasurer and all the receivers subordinate to him shall accept, and receive the same accordingly in all public payments ... the Colony is hereby engaged to satisfy the value of said bills as the Treasury

shall be enabled. And any person having of said bills in his hands, may accordingly return the same to the Treasurer, and shall receive the full sum thereof in money, or other public stock at the money price as stated for that time.<sup>6</sup>

“Money” then meant specie. The Treasury collected “rates” (i.e., taxes) mostly in “corn” (i.e., grain) and other goods, collectively called “country pay.” Some of these objects were received by the Treasurer according to “money prices” set by the General Court.

Other provisions of the act limited the quantity of notes to £7000, required three signatures on each note to prevent counterfeiting, and promised replacement of worn notes. More important were the quoted promised uses of the notes: Any payment to the colony could be discharged with these notes; and if the Treasury had specie or those goods with set prices, note holders could convert their notes. These promised uses were also printed on the notes<sup>7</sup>. The rest of this section is dedicated to these two provisions.

### **2.1. Convertibility into Movables**

It is useful to start by getting the convertibility feature out of the way. Contemporaries report that the Treasury was empty. Therefore, at least initially, the promise to convert the notes into specie or grain was an empty one. There is no documentation of such conversion actually occurring, and all the contemporary letters and documents of the period show no serious consideration of this clause<sup>8</sup>. Even Mather (1697), one of the notes’ greatest supporters, did not claim that such conversion ever occurred. The only documented conversion of paper money was made by some private citizens who

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<sup>6</sup> M-S, pp. 290-1.

<sup>7</sup> Ibid.

<sup>8</sup> Davis (1910), vol. I, pp. 189-208, and the references in Goldberg (2006b).

voluntarily gave specie for paper<sup>9</sup>. This would not have been done if the Treasury could have conducted such conversion.

How about expectations of future convertibility? Since the government did not produce any private goods, and privateering had been suppressed, there were only three possible sources of goods or specie in the Treasury: Tax receipts, loot, and land sales. People who had paper money preferred to pay taxes with it, because unlike grain it had a questionable value and it was better to get rid of<sup>10</sup>. If nobody paid taxes in goods or specie, such conversion was unlikely. As for loot, the failure in Quebec taught that expected loot was unreliable. No significant loot was expected any time soon as the winter put the war on hold. Even the loot from the easy May 1690 expedition to Port Royal was just enough to cover the expenses of that expedition<sup>11</sup>. Moreover, the only goods that the Treasury committed to use in redeeming the notes were “country pay,” while future loot would have probably included mostly other types of goods. Also, the commodity money act that is discussed in Section 5 strongly induced the Treasury to immediately use any grain it got for paying back debts to those who did not hold paper money. The impossibility of land sales as a source of specie is discussed in Section 4.

The conditional convertibility clause was probably inspired by an identical clause in John Blackwell’s Bostonian bank scheme of 1686-88.<sup>12</sup> Convertibility into specie was actually laughable both for Blackwell’s bank and the 1690 notes. It was the severe lack of

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<sup>9</sup> Mather, p. 45.

<sup>10</sup> Mather, p. 44.

<sup>11</sup> Hutchinson, p. 336.

<sup>12</sup> Davis (1910), vol. I, p. 139.

specie that made the bank necessary in the first place<sup>13</sup>. From now on, I therefore analyze the 1690 notes as if they were completely inconvertible.

## **2.2. The Tax-Foundation Theory of Money**

Like any other object, the value of inconvertible paper money is determined by supply and demand. While creating positive supply is easy (i.e., money printing), creating positive demand is not trivial. If people expect that no sellers would accept the notes from them, they might not accept the notes themselves. Self-fulfilling expectations can result in zero demand for the notes, and then their value is zero.

The government can change that by creating artificial demand for the notes, e.g., by accepting them for tax payments<sup>14</sup>. According to this “tax-foundation theory of money,” if a certain amount of notes discharges a tax liability, then the notes are valuable. Possession of the notes, and their payment to the government, saves the taxpayer from a tax evader’s punishment, or from paying in intrinsically useful objects. In modern legal terms, objects whose use for tax payments is recognized in law are *legal tender for taxes*. The government can even force taxpayers to use the notes for tax payments, rejecting all other media of payment.

The General Court learned this mechanism over time. The chronic lack of specie forced all colonies to approve tax payments in goods. To prevent disputes between taxpayers and tax collectors regarding which types of goods were acceptable and at what prices, the General Court regularly set prices for specific types of goods for tax payments. When the paper money was issued, the act in force, dated October 25<sup>th</sup>, 1690, had set,

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<sup>13</sup> On the general currency problems in the colonies see Felt (1839) and Nettels.

<sup>14</sup> For a model see Goldberg (2006c).

e.g., barley at 4s per bushel.<sup>15</sup> Therefore, a tax liability of, say, 60s, could be discharged by giving the Treasury 15 bushels of barley. The quality of the goods had to be “merchantable,” and the Treasury typically passed the goods on to its creditors. The set prices were usually adjusted to market standards once a year, and the same probably goes for the quality standards.

Over time sellers surely learned what was the minimal quality of goods that the Treasury accepted for taxes. Consider a book seller in 1690, being offered by a buyer 15 bushels of barley of sufficiently good quality as payment. He knew that these 15 bushels could at the very least be used to discharge 60s of tax liability. A drop in the market price of barley did not matter to him. The tax law’s prices put a lower bound on the value of these goods. There were probably thousands of transactions during half a century in which a seller accepted a certain quantity of grain at a certain price, only because he knew it had a guaranteed value in tax payments. This increased the demand for grain, including grain of marginal quality.

Producers of other types of money did understand how important this mechanism was for increasing the value of money. In 1679, John Hull, the monopolist mint master and colony’s Treasurer, asked the General Court for an abatement of one half of taxes to those who would pay taxes in coin<sup>16</sup>. While abatements of that type were standard, Hull’s proposed abatement is the highest on record<sup>17</sup>. Since he objected to the use of Spanish coin<sup>18</sup>, it probably means that he was more concerned with the demand for his coins

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<sup>15</sup> M-S, p. 279. The first such law is from 1635 (Shurtleff, 1853, vol. I, p. 140).

<sup>16</sup> Massachusetts Archives (henceforth MA) 100:239.

<sup>17</sup> It ties with other orders a few months earlier and a year later (Shurtleff, 1854, vol. V, pp. 219-220, MA 100:261). It is almost certain that Hull lobbied for these orders as well.

<sup>18</sup> MA 100:245.

rather than efficient tax collection. He was probably the one behind the tax laws of 1677-85 that even forced taxpayers to use coin for a fraction of their payments<sup>19</sup>.

Similarly, the aforementioned Blackwell's banknotes were originally supported only by private means, i.e., with backing by goods and land<sup>20</sup>. Because the bank's directors controlled the government in 1686<sup>21</sup> they managed to give these private notes a full legal tender status: They were to "be esteemed as current moneys in all receipts and payments, as well as for his majesty's revenues, by the treasurer and receivers thereof."<sup>22</sup>

This understanding about the tax-foundation theory surely led to the provision in the 1690 paper money act, given the personal connections to the bank and the mint. In December 1690, three of the bank's officers were in the paper money committee<sup>23</sup>, three

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<sup>19</sup> Shurtleff (1854), vol. V, pp. 156, 324, 376-7, 417, 505.

<sup>20</sup> Horsefield (1966) proves the bank originated in an English bank scheme.

<sup>21</sup> Council's President Joseph Dudley, Deputy-President William Stoughton, and Councilor Wait Winthrop, were bank directors together with Blackwell (Davis, 1910, vol. I, pp. 148-9; Whitmore, 1874, vol. III, p. 85, fn. 23). Blackwell, Dudley, Stoughton, and Winthrop's brother-in-law (Richard Wharton) were also partners in a major land speculation (M-S, p. 513).

<sup>22</sup> MA 126:103-6.

<sup>23</sup> Magistrate Elisha Hutchinson, Speaker of the House Penn Townsend, and Adam Winthrop (compare M-S, p. 290, with Davis, 1903, p. 275). Hutchinson's name appears in the paper money act before all other committee members, including Treasurer Phillips. This may indicate that he was the act's architect (Trumbull, 1884, p. 281, fn 1, also finds this fact worth noting). His special role is also hinted by the fact that an open letter written in support of the money's uneasy circulation was addressed to him (Davis, 1910, vol. I, p. 197. The only other similar letter was addressed to Treasurer Phillips by Phillips's son-in-law). Hutchinson was the dominant figure in all the issues of war finance. He may be the only one on record relying on expected Canadian loot to pay the expedition's costs (letter to Cooke, March 31<sup>st</sup>, 1690, Gay Transcripts, Phips Papers I, p. 25). That year the General Court appointed committees to recruit the resources for the upcoming expeditions to Port Royal (March) and Quebec (June), to examine the Treasury's accounts and debts (October), and to borrow money (November). Hutchinson was the only man on all four committees (M-S, pp. 228, 249, 251, 277-8, 284). His cousin Eliakim headed the debentures committee (M-S, p. 182).

others were magistrates<sup>24</sup>, the owner of the closed mint was a magistrate<sup>25</sup>, and two senior bank officers – highly esteemed and surely consulted with – were also in Boston<sup>26</sup>.

The real novelty about the paper money of 1690, compared to grain, local coins, and the backed banknotes, was that, being intrinsically useless and unbacked, it took the tax-foundation mechanism to its mathematical limit. It promised that these pieces of paper would discharge tax liabilities according to their face value. Every seller was supposed to understand that no matter what was the acceptability of the notes in the market, they were still useful for tax payments. In analogy to the effect of the commodity money tax laws, the price of paper money for taxes (1s in paper discharged a 1s tax liability) was supposed to put a lower bound on the notes' value. The intrinsic uselessness of the notes was not supposed to make sellers worry any more than they had been worried about the quality of grain – so long as that quality was no less than the Treasury's threshold.

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<sup>24</sup> Wait Winthrop, Isaac Addington, and James Russell (Davis, 1903, p. 275). Winthrop was injured when the session started and was later visited by magistrate Sewall (Sewall, p. 338, M-S, p. 285). Addington was not present on the first day, but he was in Boston, healthy enough to socialize with the leadership throughout the month (Sewall, pp. 338-9). Russell attended at least the session's opening (M-S, p. 285). They all could have contributed to the discussion.

<sup>25</sup> The sonless Hull died in 1683. His only son-in-law and mint heir was Samuel Sewall (Sewall, p. xviii, M-S, p. 285). He may have been an active mint master before it closed (Whitmore, 1874, p. 234).

<sup>26</sup> Blackwell had returned in March 1690 from a stint of governorship in Pennsylvania (Bullivant, 1878, p. 107). In January 1691 he wrote the open letter to Hutchinson about the money (Davis, 1910, vol. I, pp. 206-7). Already in 1686 Randolph complained that he had been consulted with "on all affairs" (Toppan, 1967, vol. IV, p. 113). His financial and administrative experience (including Treasurer of Army under Cromwell) gave him the Pennsylvania job even though Penn had never met him (Sosin, 1982, p. 45). Upon returning to England in 1691 he was consulted by the Committee for Trade and Plantation, which was debating the content of the new Massachusetts charter (Fortescue, 1899, #1409). Later, the chief lobbyist for Massachusetts, Increase Mather, recorded at least two meetings with "C. Blackwell" to discuss the same issue (Mather, 1691, 15 September 1691, 30 October 1691). "C" could stand for "Captain" (Whitmore,

Another way to view the tax acceptance in the paper money act is a negative one: If the issuer itself would not accept the notes in payments owed to it, why should anyone else accept them? Not accepting the notes for taxes would have been fatal for the public's trust in the notes. Yet another way to view the tax acceptance is as another step in a trend that made tax collection and disbursement easier. To avoid the transport costs of commodities to and from the Treasury the government allowed local treasurers to offset credits and debts with the colony's Treasurer<sup>27</sup>. In November 1690 it was ordered that all the colony's creditors offset their credits with their tax liabilities<sup>28</sup>, so tax-paying troops could pay taxes with their debentures. The paper money act of December 1690 converted the debentures into conveniently denominated, tradable notes. Troops who were too hungry to worry about taxes were able to shop with these notes<sup>29</sup>.

How did these people understand what Milton Friedman did not understand?<sup>30</sup> Perhaps the form of governance in Massachusetts was conducive to such understanding. The colony's leaders also had municipal offices. As constables, selectmen, and tax commissioners of their hometowns they had an important role in the actual tax collection process<sup>31</sup>. Some switched from legislative roles to fiscal executive roles. They were therefore aware of tax collection issues as taxpayers, tax collectors, and legislators of

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1869, vol. II, p. 204). Stoughton was one of the colony's two Commissioners (i.e., diplomats) and regularly socialized with the leadership (M-S, p. 242, Sewall, pp. 310-40).

<sup>27</sup> This began in 1675 (Shurtleff, 1854, vol. V, p. 66), imitating Connecticut law (Trumbull and Hoadly, 1850, vol. II, p. 142), and expanded in 1684 (Weeden, 1890, p. 327).

<sup>28</sup> M-S, p. 283.

<sup>29</sup> Blackwell's banknotes were also to be received in taxes, but those were private notes rather than the Treasury's liabilities. It was cronyism rather than an efficient use of the setoff rule.

<sup>30</sup> Friedman (1992), p. 10, argues that paper money's acceptance for taxes has no effect on its circulation.

<sup>31</sup> Barnes (1923), pp. 85-6.

taxes. Together with their involvement in trade and in private monetary ventures (mint and bank), many of them had every possible perspective on this issue<sup>32</sup>.

It is now time to check why the money did not follow earlier moneys that had a full legal tender status, forced usage, or backing by land.

### **3. Legal Tender**

The lack of a convenient medium of paying taxes was just a part of a general problem which included payments of contractual debts. After experimenting with many types of money<sup>33</sup>, in 1652 the colony started minting its own coins. This was not a breach of the royal coinage prerogative because there was no royalty at the time. After the Restoration the mint had been repeatedly portrayed as an offense against the Crown<sup>34</sup>.

The problem was not just the mint per se. Other problems included the absence of the king's portrait or name<sup>35</sup>, the low fineness and weight of the silver, which were meant to draw specie (including English specie) to Massachusetts<sup>36</sup>, and the coins' status as *legal tender for debts*. The latter meant that if a contract denominated in pounds had been created without specifying the medium of payment, the Massachusetts coin was good

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<sup>32</sup> In 1690 Hutchinson was tax commissioner, Adam Winthrop and Townsend were selectmen, and Phillips was the colony's Treasurer. Hutchinson had also been a selectman, while the last committee member, Timothy Thornton, had been a constable. Townsend and Thornton had been grain appraisers (Seybolt, 1939, pp. 52-80). Other than Phillips, all committee members were Boston merchants. Winthrop had been a temporary co-treasurer in 1689 and later employed in war-related fiscal roles (M-S, pp. 51, 55, 95, 138, 178, 226). Of the other magistrates, Russell had also been the colony's Treasurer (Lewis, 1967, p. 430).

<sup>33</sup> See Felt, Nettels.

<sup>34</sup> Already in 1665 the first post-Restoration English commissioners ordered the mint closed (Shurtleff, 1854, vol. IV - Part II, p. 213). Randolph complained about it in 1677 (Hall, 1960, p. 34), 1681, and 1683 (Toppan, 1967, vol. III, pp. 96-7, 229-30).

<sup>35</sup> Hall, Leder, and Kammen (1964), p. 24.

<sup>36</sup> Barnes (1923), pp. 160-1.

enough to discharge the debt, and the seller could not sue for a breach of contract. Other types of money were still legal, and sellers could always insist in advance on being paid with other types of money<sup>37</sup>.

Debasing coins and imposing them on creditors as legal tender were implicitly part of the royal coinage prerogative. Even regulation of values of foreign coin was considered part of the prerogative<sup>38</sup>. Complaints were therefore made in England against Massachusetts<sup>39</sup>. In the 1690s the legal tender issue would be an obstacle for the establishment in England of various private banks that asked for such power. The Bank of England was approved by Parliament only after dropping this request<sup>40</sup>.

Sometimes in the mid 1680s the mint was closed<sup>41</sup>, but it was too late. The original charter was revoked in 1684. The colonists asked to re-open the mint in 1686, but the Lords of Trade objected because of the debasement<sup>42</sup>. In 1689 Increase Mather tried to revive the old charter by attacking the legal procedures that vacated it. This attempt,

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<sup>37</sup> The act stated: “shall be acknowledged to be the current coin of this commonwealth, and pass from man to man in all payments accordingly” (Shurtleff, 1854, vol. IV - Part I, p. 84). That both buyers and sellers could have avoided using coin by carefully writing contracts is proven by the lack of penalty for such actions. There is also no trace of prosecution for such “offenses” in court records. See Goldberg (2006e) for a general explanation of legal tender laws.

<sup>38</sup> Barnes (1923), p. 152. In 1685 Governor Andros was explicitly allowed by the king to do so (Toppan, 1899a, p. 247).

<sup>39</sup> In 1681 Virginia’s late governor complained about legal tender before the Lords of Trade (Fortescue, 1899, pp. 99-100).

<sup>40</sup> Horsefield (1960), pp. 126, 160, 211.

<sup>41</sup> In 1686 it was spoken of as being closed for a “long time” (Toppan, 1899b, p. 244).

<sup>42</sup> Ibid, Barnes (1923), pp. 160-2.

however, only revived the details of the colony's offenses, including coinage<sup>43</sup>. The naive General Court instructed agents Cooke and Oakes in early 1690 to ask for both a revival of the old charter and liberty of coinage<sup>44</sup>. The experienced Mather delayed the coinage plea until 1691, when it was clear that the old charter could not be revived<sup>45</sup>.

In December 1690, when the General Court realized it had to issue paper money, it found itself in a very awkward and ironic position. It had ordered the invasion of Canada partly to find favor with the king<sup>46</sup>. Enlarging his empire was the *only* bargaining chip they had in the ongoing charter negotiations with him<sup>47</sup>. Their failure did not just make this bargaining chip less viable, but made their bargaining position much more difficult by forcing them to violate the royal prerogative again. There is no doubt that they were aware of it. Some men with influence on the paper money issue had witnessed in London first hand the use made of the coinage offense by the colony's enemies<sup>48</sup>. They were aware of the tough charter battle going on in London<sup>49</sup> and must have realized that officially issuing paper money at such a sensitive time would be a colossal mistake. While England repeatedly objected to the Massachusetts coins which were debased

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<sup>43</sup> Coinage was mentioned in at least seven documents, most of which were presented before the Lords of Trade or Parliament (M-S, pp. 430, 437, Hall, Leder, and Kammen, 1964, p. 69, Whitmore, 1869, p. 140, 1874, pp. 5, 16, 226).

<sup>44</sup> M-S, p. 198.

<sup>45</sup> M-S, p. 514, Johnson (1981), p. 235, fn. 12.

<sup>46</sup> Hutchinson, p. 337.

<sup>47</sup> On the charter negotiations see Johnson (1981), Lovejoy (1987).

<sup>48</sup> Hutchinson and Sewall were there in 1689 helping Mather's lobbying (Sewall, p. 256) and did not miss a tour of the London Mint (Sewall, p. 253). Former magistrates Stoughton and John Richards were there in the 1670s as official agents and saw Randolph using the issue to attack the charter (Hall, 1960, pp. 38-44).

<sup>49</sup> In letters to their agents (November 1690) and the king and queen (December 1690), they warned that the colony's actions will be maliciously "misrepresented" by others (M-S, pp. 288, 412-3).

22.5%, the paper money issue would amount to opening a mint with 100% debasement. The conclusion was clear: *The paper money had to look as if it was not money.*

The solution was to make the paper money look like a simple credit instrument, an IOU, which happened to be issued by a provisional colonial government. There was nothing illegal about that, as anyone was allowed to issue IOUs.<sup>50</sup> Any IOU at the time had four features: It was convertible into specie or goods, it was not forced on anyone, the issuer was expected to accept it in offsetting debts to the issuer, and it was not called “money.” The General Court did exactly that. It made an (empty) promise of convertibility. The letter of the law did not force the money on any person: Nobody had to receive it for the government’s debts or private debts, use it in trade, or pay taxes with it. The act did force the government to accept the money in offsetting the government’s debts (notes) against its credits (taxes). Finally, the notes were called “bills” in both the authorizing act and on the face of the notes, rather than “paper money” or “money.”<sup>51</sup> This tactic was also perfectly consistent with the overall new rhetoric of the colonists,

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<sup>50</sup> Horsefield (1960), pp. xii-xiv, surveys these instruments in England, including bills of exchange, promissory notes, bills obligatory, checks, and goldsmiths’ notes. For usage in the colonies see Felt, pp. 33, 249, Davis (1910), p. 191.

<sup>51</sup> Contrary to the common belief (following Mather, 1697, p. 44, and Hutchinson, p. 340), even the name “bills of credit” – taken from Blackwell’s bank (Davis, 1910, vol. I, p. 163) and earlier English bank schemes (Horsefield, 1960, pp. 97, 111, 242; this goes back at least to 1677) – was officially used only from February 6<sup>th</sup>, 1691 (M-S, pp. 296-7).

which emphasized their rights as Englishmen<sup>52</sup>. As a group of Englishmen, they could not create legal tender money but did have the right to issue IOUs<sup>53</sup>.

The General Court's scheme worked well. Its enemies were indeed all too happy to use the defeat in Quebec for their purposes. Blathwayt claimed that it proved that the colony could not remain autonomous, so the colony's agents had an almost impossible lobbying task given the damaging evidence<sup>54</sup>. The money issue and its dismal performance were also reported to London, with the terms "money" and "paper money" happily used by the government's enemies<sup>55</sup>. One letter to Blathwayt also explicitly claimed that the issue violated the royal prerogative<sup>56</sup>. And yet, in the entire fierce charter debate in London in the spring and summer of 1691 there is no evidence that Blathwayt or anyone else in Whitehall used the paper money issue against the provisional government. No historian even speculated about it.

A generous charter was granted in October 1691, and the colony got away with issuing money. In May 1692 the new charter arrived in Boston. In the first session of the new legislature, June-July 1692, all future notes were explicitly made full legal tender: "shall pass current within this province in all payments equivalent to money."<sup>57</sup> The notes had already circulated at par at that time, so there was no immediate need to strengthen their

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<sup>52</sup> This change in rhetoric was also used to justify the Boston revolution of 1689 and the first plea for the king's military aid. See Lovejoy (1987), pp. 292-3, 377, Johnson (1981), pp. 129-34, 196, fn. 27.

<sup>53</sup> Two pamphlets in Boston also treated the money as an ordinary credit instrument (Davis, 1910, pp. 189-206), and so did some people who voluntarily converted others' paper money into their own specie in order to support the paper money (Mather, p. 45).

<sup>54</sup> Hall (1988), pp. 240-1.

<sup>55</sup> See Goldberg (2006b).

<sup>56</sup> Letter from Foxcroft to Blathwayt, April 16<sup>th</sup>, 1691 (William Blathwayt Papers, vol. V, folder 5).

<sup>57</sup> Goodell (1869), vol. I, p. 36.

legal status. Given that the money was already legal tender for taxes and to some extent also legal tender for the government's debts (see Section 5), this act merely added private debts to the list. Why was the legal status improved, and what can we learn from this?

Legal tender laws have another role, in addition to promoting currency circulation. They solve legal disputes in cases where private contracts are not specific enough regarding the media of payment<sup>58</sup>. An object recognized as legal tender discharges a contractual debt denominated in the same unit of account. In fact, this aspect of legal tender laws, when applied to future private contractual debts (as in 1692) is completely useless for promoting currency circulation. For example, the applicability of the current English legal tender law can be easily evaded by denominating any future contract in euros or potatoes. Completing the legal tender nature of the paper money was therefore useful for purposes other than strengthening its circulation. The fact that it was done right after the new charter was received is a very powerful proof that only political considerations prevented a full, explicit legal tender act in December 1690.

Is it possible that this new act resulted from an ideological change? No, since the legislature's composition did not change much. All the initial magistrates were appointed by Increase Mather, so most of the new laws were of "the same spirit" as the old laws<sup>59</sup>.

#### **4. Land Backing**

The chronic specie problem in England and its colonies resulted in the use of land as a substitute. In America this was especially attractive because the problem was more severe

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<sup>58</sup> See Goldberg (2006e) for a detailed explanation of legal tender laws.

<sup>59</sup> Hutchinson, vol. II, p. 48. At least eleven of the twenty seven active assistants of the new council had been involved with the 1690 issue, as a governor, magistrates, deputies, or committee members. Compare M-S, pp. 285, 290, to Hutchinson, vol. II, p. 11n. Seven of the other assistants of 1692 were from areas that had been annexed to Massachusetts under the new charter.

while the substitute more abundant. For example, in 1637 Connecticut paid one of its officers 100 acres for his service in the Pequot War<sup>60</sup>. In Cromwell's time English troops were paid with debentures which were directly convertible into confiscated royal land<sup>61</sup>. Similarly, troops in Ireland got debentures which were convertible into land confiscated from local rebels. In 1676, in the middle of King Philip's War, Massachusetts pledged to its creditors that all public lands, common lands (those held by the towns), and the colony's interest in conquered lands outside the colony, would be security until repayment of all debts<sup>62</sup>. An important scholar speculates that the receipts for these debts may have circulated as currency<sup>63</sup>. In 1683 Massachusetts gave land to English creditors who lent money to the colony's agents in London. The agents themselves and other magistrates were also paid in land for performing special services<sup>64</sup>.

Land backing was also advocated in bank schemes. Originally, land titles were to be deposited just like specie and goods, and presumably the banknotes were to be convertible into land. Later land banks would lend banknotes in return for mortgages on land, but other people holding the notes could not convert the notes into land<sup>65</sup>. These proposals were adopted in the two clearinghouses of John Woodbridge, which operated in Boston in 1671 and 1681-83,<sup>66</sup> and in Blackwell's bank.

In addition to this institutional experience with land as the basis of credit and as an alternative to specie, some of the involved individuals were still around in 1690.

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<sup>60</sup> Hutchinson, p. 254, fn. 2.

<sup>61</sup> UK National Archives (<http://www.nationalarchives.gov.uk/catalogue/Leaflets/ri2003.htm>)

<sup>62</sup> Shurtleff (1854), vol. V, p. 71.

<sup>63</sup> Nettels, p. 251.

<sup>64</sup> Lewis (1967), pp. 122, 131, 187, 434, Lewis (1974), pp. 259-60.

<sup>65</sup> Horsefield (1960), Davis (1901), vol. II, ch. I-III.

Blackwell was the one who decades earlier, as Treasurer of Army, had paid the troops in Ireland with convertible debentures<sup>67</sup>. The role of Blackwell, Russell, Addington, Hutchinson, Townsend, and two Winthrops, in both Blackwell's land bank and the 1690 money is noted in Subsection 2.2. Stoughton was one of the London agents receiving land as payment. The only two members of the paper money committee who were not members of the General Court, Adam Winthrop and Timothy Thornton, were involved with the second Woodbridge clearinghouse, as a trustee and a customer, respectively<sup>68</sup>. Woodbridge himself, a former magistrate, communicated with the General Court at the time on another issue, and could have contributed to the monetary discussion<sup>69</sup>.

Given this successful use of land in both previous wars with Native Americans (when many new lands were won), and the many personal connections, it is remarkable that land is *completely absent* from the records of November and December 1690. No land was granted as payment for troops or promised as security for loans. The notes were not convertible into land and there was not even indirect backing. Not even an empty promise was made, as the aforementioned one about specie and goods.

The most likely reason is the land policy of Sir Edmund Andros, the royal governor of the Dominion of New England (1686-89). Using various legal arguments he voided *all* land titles in Massachusetts<sup>70</sup>. His main argument was that with the revocation of the charter all the lands reverted to the king. His land policy, more than all his other questionable policies combined, was so shocking that it united all the classes and political

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<sup>66</sup> Davis (1910), vol. I, pp. 112, 116, Dorfman (1946), vol. I, p. 94, Davis (1904), p. 258.

<sup>67</sup> Dorfman (1946), vol. I, p. 97.

<sup>68</sup> Davis (1904), pp. 259, 262.

<sup>69</sup> The December 1690 session also approved his request to perform marriages in Newbury (M-S, p. 294).

<sup>70</sup> Barnes (1923), Ch. VIII, Lewis (1967), Ch. X.

parties in the colony against him. In Goldberg (2006d), where details are provided, I argue that this is also why Blackwell's land bank scheme was aborted in 1688.

In 1689 Andros was deposed in a revolution, but the implications of his land policy lingered on. The warring King William III delayed his policy decisions about Massachusetts until the fall of 1691. Only then was Andros's claim of royal ownership of all the lands explicitly overruled. Until then it was unknown whether anyone in Massachusetts, including the colony itself, really owned any land, except for the few individuals who had paid Andros's exorbitant fees to confirm their titles.

There is ample proof that land was still a major problem when the paper money was created. On November 6<sup>th</sup>, 1690, and around January 1<sup>st</sup>, 1691, the London agents asked for confirmation of land titles in a draft of the new charter. Blathwayt erased it from later drafts, but at the last moment Mather got it back in<sup>71</sup>. On October 26<sup>th</sup>, 1691, Mather sent the first notice of the new charter to the exhausted, long-awaiting colony, two years after the king's last message to the colony. Mather started his letter with these words:

The charter for the Massachusetts colony passed the great seal on the sixteen instant [i.e., October 16<sup>th</sup>]. The king reserves power to himself to appoint the governor, deputy governor, and secretary. But all men's properties are confirmed as before the judgment against the old charter<sup>72</sup>.

Only then Mather mentions that they would have an elected assembly, discusses the limits on the governor's powers, mentions new territories such as Plymouth, Maine, and Nova Scotia, lists the initial nominees to the assembly, and reports on the desperately needed ammunition that the colony requested. The fact that the governor was a royal one

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<sup>71</sup> M-S, pp. 468-9, 471-2, 514-5, 518, 555-6, 575, Whitmore (1869), vol. II, pp. 283-4.

<sup>72</sup> M-S, pp. 620-1.

was a major defeat, but the rest was good news. The fact that Mather started the good news with “properties” (i.e., land), proves how critical the issue was to all the colonists, and that until that time the issue was uncertain. It is also worth noting that the letter was addressed to former (and soon to be) magistrate Richards, one of the few political figures in Massachusetts who were *not* involved in land speculation<sup>73</sup>.

Shortly after that, Mather’s leading apologist – his son Cotton – wrote four awkward “political fables” using animals and paganism to illustrate his father’s achievements. In two of them he emphasized that all land owners owed gratitude to his father for the confirmation of their titles<sup>74</sup>. Even the charter’s confirmation was not enough to calm the people. In October 1692 the legislature passed an act guaranteeing title to those whose possession of land had been uncontested for three years<sup>75</sup>.

Going back to the fall of 1690, the land anxiety must have peaked, because most of the personnel of the Dominion government seemed to be making its way back to America, one man at a time. In August 1689 it was rumored that former Lieutenant-Governor Francis Nicholson would become Governor of New York (which had also been part of the Dominion), but eventually the colonists learned in May 1690 of his arrival to Virginia as governor<sup>76</sup>. Andros himself, exonerated of all charges in April 1690, was rumored in Boston to return as governor<sup>77</sup>. A mid-October rumor had Andros returning as New York

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<sup>73</sup> Lewis (1967), p. 429.

<sup>74</sup> Whitmore (1869), vol. II, pp. 317, 326, 330.

<sup>75</sup> Goodell (1869), vol. I, p. 41. Hutchinson, vol. II, p. 49, explicitly attributes this act to the trauma of Andros’ policy.

<sup>76</sup> Sewall, pp. 270, 321-2.

<sup>77</sup> Sosin (1982), p. 222, Hall (1988), pp. 233-4.

Governor, with Colonel Sloughter becoming Governor of Massachusetts<sup>78</sup>. Eventually, just like Nicholson, Andros was sent to Virginia in 1692,<sup>79</sup> while Sloughter went to New York. Former President Dudley had just been appointed President of the New York Council<sup>80</sup>. Former Attorney General James Graham, a leading architect and executioner of Andros' land policy, was also on his way to another job in New York<sup>81</sup>.

Magistrate Elisha Hutchinson, the presumed architect of the paper money of 1690, was certainly aware of land issues. He belonged to the Atherton Company, which claimed the Narragansett lands, and he was one of the committee of three who represented the proprietors<sup>82</sup>. This was the most important land speculation of the time. When Andros refused to settle the legal disputes in their favor, Hutchinson left for England in 1687, joining the anti-Andros lobbying efforts of his Atherton partner Richard Wharton<sup>83</sup>. In 1682 he was a surveyor of country lands and in a committee that examined all the land grants made by the General Court to towns and individuals<sup>84</sup>. These grants were among Andros' favorite targets. Awareness of land issues in 1690 can also be

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<sup>78</sup> Sewall, p. 333.

<sup>79</sup> Whitmore (1868), vol. I, p. xxxiii.

<sup>80</sup> In late September 1690 his appointment was requested by the new governor (Kimball, 1911, p. 58).

<sup>81</sup> On his role under Andros see Whitmore (1868), vol. I, pp. 74, 93, 99, 166-7, 186. By March 1691 he was in New York (letters to Nicholson, April 6<sup>th</sup> and May 6<sup>th</sup>, 1691, Blathwayt Papers, vol. X, folder 5).

<sup>82</sup> MA 2:193a, 2:137, 100:389, Bradstreet, Hutchinson, and Saffin (1678), Wharton, Hutchinson, and Saffin (1686).

<sup>83</sup> Sewall (p. 196). Wharton, the king of land speculation, did his best to dissolve the Massachusetts government and establish instead the Dominion just to settle his real estate legal disputes. In the Dominion the non-freeman Wharton was supposed to have a leadership position. With jurisdiction over both Connecticut and Rhode Island (both of which claimed the Narragansett lands), he thought he could settle the legal issues in his favor. Andros' policy, announced February 1687 (Toppan, 1899a, p. 253), made him literally bankrupt. He left for England in July 1687 and died there in 1689 (Sewall, pp. 182, 255).

<sup>84</sup> MA 45:183a-b, 100:291, 100:383.

conjectured for another magistrate and Atherton partner, Wait Winthrop, his cousin Adam of the paper money committee, and magistrate Russell. The latter two did not belong to land speculation companies but had large land holdings<sup>85</sup>.

In conclusion, as of December 1690, all the land possessed by the colony and those territories that could have been gained in the war apparently belonged to the king. Under such circumstances, giving public land to the troops, or promising to back the notes with public land was laughable at best. In the worst case scenario, the king could have approved Andros' policy and could have been quite upset at the General Court for giving *his* land away, or for promising *his* land as backing for the colony's paper money. Avoiding any reference to land seemed like the safest course of action.

There was one indirect way in which the notes could have been backed by land. The act forced the Treasurer to receive the notes in *all* payments. This did not mean only taxes, but also payment for lands, *if* the Treasury happened to sell any lands. The problem was that no such guarantee of land sales was made. The General Court could have granted them for free to cronies as it had done numerous times in the past.

As seen in the previous section, as soon as the new charter arrived, the legal tender status was completed. I claimed that this proved the importance of political considerations. Land backing, however, was not added to the notes. One reason is that a complete legal tender status was needed to solve another issue (private debts), while land backing had no analogous role. Moreover, the land issue was not really settled even in 1692. The aforementioned act of October 1692 was sent to England for approval, as the new charter required of any act. In 1695 it was disallowed by the king because a three

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<sup>85</sup> Lewis (1967), p. 191. See Lewis (1974) for a detailed discussion of land speculation in the 1680s.

year period was deemed too short and because the king's rights were not mentioned. This problem was fixed only in 1697 by extending the period to seven years, and adding a clause that "there shall be a saving of his Majesty's rights," whatever that meant<sup>86</sup>.

There is a happy end to this story. In the 1730s, as many of the 1690 troops were passing away, some social or political movement (which reminds of the recent recognition in the U.S. of World War II's "greatest generation") got the General Court to pay these troops or their heirs with land. Many towns were so established<sup>87</sup>.

The explicit backing of paper money with land remained dormant during the rest of the 1690s in Massachusetts but peaked in London<sup>88</sup>. In the following century, the idea of backing paper money with land would be revived in New England<sup>89</sup>.

## **5. The Commodity Money Act**

In the same session that enacted the paper money act, a seemingly unrelated act passed. It had no preamble and no reference to the war or paper money. The entire act states:

Ordered that all country pay with one third abated shall pass as current money to pay all country's debts at the same prices set by this court; except what has been borrowed in money shall be paid in money<sup>90</sup>.

Recall that "Country pay" is grain and other goods authorized as legal tender for taxes.

At a first glance it seems so unrelated to the paper money act that its neglect by all historians is not surprising. In the General Court records the paper money act is followed by four orders to pay particular colony debts to various individuals. The commodity

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<sup>86</sup> Goodell (1869), vol. I, pp. 41-2, 300.

<sup>87</sup> Watkins (1898), pp. 141-215.

<sup>88</sup> Horsefield (1960).

<sup>89</sup> Davis (1901), vol. II, ch. V-XII.

<sup>90</sup> M-S, p. 292.

money act is hidden after the second of those orders<sup>91</sup>. Another reason for this neglect is that most of the historical research on Massachusetts money is based on the collection of monetary laws in Felt (1839). Felt, the composer of the Massachusetts Archives collection, made in that book two technical errors regarding this act that helped it to remain in the shadows<sup>92</sup>.

Why is the act relevant for the paper money? As seen in Section 2, the text of the paper money act offers troops, who so desire, to receive the paper money as wage payments. Consider, as an example, a soldier who had a debenture for 60s. If he desired, he could exchange the debenture for 60s in paper money. According to the latest commodity money tax act of October 25<sup>th</sup>, 1690, barley was priced for tax purposes at 4s per bushel (Subsection 2.2). Since this pricing was adopted in the commodity money act which is the subject of this section, a debt of 60s was worth 15 bushels of barley. But this act had “one third abated,” so the Treasury actually could discharge the debt with only 10 bushels of barley.

The soldier faced a risk if he did not believe in the paper money. At any time, a Treasury official could offer him 10 bushels of barley. A refusal to accept such a low quantity of barley would practically void the colony’s debt to him. This is the meaning of legal tender: A creditor who rejects it cannot insist on getting paid in any other way.

Now the paper money act seems less innocent than before. Troops who rejected it could have been forced to accept a low quantity of grain instead. Moreover, the following

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<sup>91</sup> Court Records, vol. VI, p. 171.

<sup>92</sup> It appears only in the errata (p. 250) and dated as October 24<sup>th</sup>. In fact, it was dated December 24<sup>th</sup>, just like the paper money act. The month is originally written as “X<sup>ber</sup>” (MA 36:259b-c) and was printed by Felt as “October.” Of course, the tenth month then was December, as the year started on March 25<sup>th</sup>. Also, “Decem” literally means “ten.” Sewall, for example, used “X<sup>t</sup>” for “December” (p. 239).

claim can be made: The commodity money act that made grain legal tender for government debts indirectly made *the paper money* – to some extent – legal tender for government debts. That extent was one third. To see why this is the case, note that if the abatement had been 100% rather than one third, a soldier rejecting the notes would have the government debt to him discharged with exactly zero bushels of barley. He would have lost his entire wage as a penalty for rejecting the notes. That is exactly what legal tender means. Because the actual abatement was only one third, the notes were only “one third legal tender” for government debts.

As explained in Section 3, making the notes fully and explicitly legal tender for all obligations (taxes, government debts, and private debts) would have violated the royal prerogative and would have been damaging to the charter negotiations in London. With the seemingly unrelated commodity money act the General Court went one third of the way towards making the paper money retroactively legal tender for the troops’ wages.

It may seem outrageous that a 60s obligation *to* the government in taxes was discharged with 15 bushels, but the same obligation *from* the government was discharged with 10 bushels. Actually, this is only a mild version of our modern legal tender law. For us, the numbers are infinity and zero instead of 15 and 10, respectively. If I owe the U.S. Treasury \$60 in taxes, even all the barley in the world – transported by myself to the IRS headquarters – would not discharge the obligation. Since barley is not legal tender today the IRS does not have to accept it. I will end up in prison for not paying taxes. On the other hand, if the Treasury owes me \$60 it could offer to pay with three \$20 bills. If I insist on being paid in barley I will end up with nothing. Because \$20 bills are legal tender, the court cannot force the IRS to pay me in barley. It just doesn’t pay off for me

to insist on handling all my dollar-denominated obligations and credits with barley. The troops in 1690 faced a much weaker anti-grain discrimination than that<sup>93</sup>.

An obvious question is why the General Court chose one third rather than, say, one half, or two thirds. The answer is that the one third was the only magnitude that could give the General Court an alibi. The legislative history of commodity money in New England was full of anti-grain abatements. Those commodity money tax laws which set grain prices for tax payments started discriminating against grain in 1662 in Rhode Island<sup>94</sup>. The goal was to encourage tax payments in specie, to prevent its hoarding or export, and to save the costs of storing and disposing of grain. Massachusetts copied this idea in 1673, and made the standard abatement one third in 1677.<sup>95</sup> Governor Andros cancelled the abatement<sup>96</sup> but it was revived after he was deposed. The provisional government enacted four tax laws between November 1689 and December 1690. All of them had the one third abatement. The last of these acts passed on November 6<sup>th</sup>, 1690.<sup>97</sup> None of these laws had ever been objected to by the Crown.

All these previous abatements benefited those who paid taxes to the government in specie rather than in grain. The abatement of December 24<sup>th</sup>, 1690, benefited those who accepted payment of the government debt in paper money rather than in grain. It exactly

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<sup>93</sup> In fact, the discrimination became worse in May 1691, when the prices of goods for taxes were abated one third, relative to their October 1690 values (M-S, p. 316). Barley was then only valued at 2.67s per bushel, so a 60s tax liability required 22.5 bushels. This was the first time ever that these legislated prices were equally cut across the board, so it was clearly not an adjustment to market conditions. Johnson, p. 199, thinks this was meant to increase revenue, but it could have been made to promote the paper money, the quantity of which had just been raised from £7,000 to £40,000 (M-S, pp. 311-2).

<sup>94</sup> Bartlett (1856), vol. I, p. 481.

<sup>95</sup> Except for 1679. Shurtleff (1854), vol. IV - Part II, pp. 567-8, vol. V, pp. 139, 219-220.

<sup>96</sup> Batchellor (1904), vol. I, p. 176.

mirrored the older abatement laws: Instead of benefiting those who would give away *specie* when *paying* an obligation *to* the government, the December 24<sup>th</sup> commodity money act benefited those *receiving* an *intrinsically useless* object as payment of an obligation *from* the government. Both types of discrimination increased the net real assets of the Treasury.

The magnitude of the benefit – one third – made the analogy complete. It was thus much less likely to arouse the Crown’s suspicion or objection than an explicit legal tender law, or a similar law with a higher abatement. This trick succeeded. The anti-Puritans who informed London about the paper money failed to mention the commodity money act. A facsimile of one note, also sent to England<sup>98</sup>, did not reveal the secret because the notes’ text mentions only taxes and convertibility. The government enemies either did not understand the trick, or they could not elaborate on it in their brief letters. Perhaps they were even unaware of this deception. Those authors who can be identified were not among the affected troops<sup>99</sup>. This roundabout way in which the paper money was made partially legal tender for government debts misled not only the Crown but also historians.

One more remark is about the loans mentioned at the end of this act. The expedition was financed by loans to the government which were used to buy supplies. Some of the leading men in the colony were among the lenders. Since they were also in the General Court they took good care to make sure they would be paid back in *specie*<sup>100</sup>.

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<sup>97</sup> M-S, pp. 173, 224-5, 280, 283.

<sup>98</sup> Goldberg (2006b).

<sup>99</sup> The published account attributed to Thomas Savage, who was in Quebec, includes a discussion of the paper money which he never wrote. His original letter was only about the fighting itself (Goldberg, 2006b).

<sup>100</sup> One of them, Timothy Thornton, was in the paper money committee (MA 100:452)

## 6. The Market Discount

Contemporaries reported that some sellers rejected the paper money altogether, while others accepted it at a discount. The average of the reported discount is one third, with most of the variance attributed to the reporters' political bias<sup>101</sup>. Mather claims that the discount was due to the uncertain political environment. The temporary government, with all its promises regarding the paper money, could have been replaced by a new royal governor, who could have reneged on all these promises. This seems a very reasonable explanation for any case of depreciation of paper money in politically chaotic times.

The problem is that this explanation is inconsistent with Mather's own testimony (and the consensus among contemporaries) that only the first receivers of the money suffered from the discount<sup>102</sup>, and that it quickly recovered to par. It is true that an act of February 6<sup>th</sup>, 1691, gave a 5% premium for tax payments in paper money<sup>103</sup>, but this minor bonus to their value cannot explain the disappearance of a huge one third discount. Hutchinson claims that "as the time of payment of the tax approached, the credit of the notes was raised,"<sup>104</sup> but with the time of tax payment known well in advance this should have caused a gradual increase rather than a discrete jump upwards.

Good news about the government's future could have caused a discrete jump in the notes' value. However, just the opposite happened. The war was on hold due to the winter and mutual exhaustion<sup>105</sup>. Only two things probably arrived from London to Boston in early January 1691, and both were bad news. The first was a depressing letter

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<sup>101</sup> See Goldberg (2006b) for details. Hutchinson, Palfrey, Weeden, and Johnson also report one third.

<sup>102</sup> Mather (1697), pp. 44-5, Davis (1910), p. 201, Hutchinson, p. 341.

<sup>103</sup> M-S, pp. 296-297.

<sup>104</sup> Hutchinson, p. 341.

<sup>105</sup> Hutchinson, p. 342.

from a London agent reporting on the charter lobbying<sup>106</sup>. The second was news that the traitor Dudley “returns home.”<sup>107</sup> This was a bad signal regarding the future of the government that deposed and arrested him in 1689.

An alternative explanation is suggested here. Note that the market discount on the notes was identical to the abatement on grain. Both were of size one third. Consider the example used earlier. A soldier who was supposed to receive 60s from the Treasury knew that if and when he rejected the paper money he could have been paid with only 10 bushels of barley. Given a market discount of one third on the notes in the market, accepting 60s in paper money from the Treasury was as good as having 40s in specie. Assuming that the barley price in the market was 4s per bushel (as in the October 25<sup>th</sup> tax law), taking the paper money to the market would have yielded the soldier – again – 10 bushels. The magnitude of the discount can therefore be a simple equilibrium condition of troops being indifferent between accepting and rejecting notes.

This logic means that a 100% abatement would have resulted in the troops getting nothing for their notes in the market. That is exactly what monetary models predict when sellers have all the bargaining power. The buyers were indeed ridden with hunger, frost, and small-pox, which killed hundreds of them on the way back from Quebec.

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<sup>106</sup> The letter from Cooke to Governor Bradstreet is dated October 16<sup>th</sup>, 1690 (M-S, 1988, pp. 458-466). Travel times of letters during that season in the 1680s were October 18<sup>th</sup> - January 5<sup>th</sup> (Lewis, 1967, p. 290) and October 14<sup>th</sup> - December 24<sup>th</sup> (Blathwayt Papers, vol. VI, folder 6). Among the thirty English arrivals in 1688 there were none in December, February, and March, but two in January (Steele, Table 4.3). The average voyage time for January arrivals in 1711-1739 was 7-10 weeks, and averaged 8.3 (Steele, Table 4.3). In 1690 it was slower due to the state of navigation and shipping technology (Steele, pp. 49-50).

<sup>107</sup> A letter from Lidget to Foxcroft, dated at London, November 5<sup>th</sup>, 1690 (M-S, p. 468). Dudley was in the English Channel on November 27<sup>th</sup>, waiting for good winds (letter from Cowes to Blathwayt, Blathwayt Papers, vol. VIII, folder 2). He arrived at Boston on January 26<sup>th</sup> (Sewall, p. 340).

An argument could be raised against this explanation. If the soldier in my example feared being paid in 10 bushels by the Treasury, it means that he expected the Treasury to have grain. But then his best strategy would have been to take 60s in notes and redeem them in the Treasury for 15 bushels, as promised in the paper money act. There are problems with this argument. First, expectations about grain availability at the Treasury are not binary. Second, the Treasury would have immediately used any grain it got for paying those who rejected notes, because of the abatement. Third, there could be other troops trying to redeem notes, with probably not enough grain for all of them.

Why did the discount disappear after the first round of trading? Once the troops were paid, this commodity money act – which was enacted especially for them – became a dead letter. It was no longer relevant for any payment or for any person. It could no longer have any effect on anything in the economy.

## **7. Conclusion**

The paper money issued by Massachusetts in 1690 seems at a first glance to be an incredibly fair one. The act authorizing it and the text on the notes impose almost every possible obligation on the issuer itself, and no obligations whatsoever on anyone else. The government would give in return for these notes anything it can legally claim to be its own (i.e., movables, but not land), and would allow any payment to it to be made in the notes. It would replace worn notes and it limited their quantity. Notes would be paid only to the colony's creditors "who shall desire" to be so paid. Nobody had to receive this money in any transaction or pay taxes with it. The use of specie and grain was still legal. No royal prerogative seems to be violated by such a private-type credit instrument.

In fact, it was a sophisticated deception. In practice, the paper money was to a large extent legal tender, and it was not convertible into (or backed by) any real asset. The deception was meant to allow the General Court and its London agents to pacify both the troops and the Crown. It worked perfectly<sup>108</sup>. Is it too sophisticated to be true? The capability of the Massachusetts leadership in such matters should not be underestimated. With procrastination, pretensions, bribes, subterfuges, hair-splitting rhetoric, and half-truths, they kept the old charter alive for twenty four years after the Restoration. When they rightfully lost it, they revolted against a royal government and dismantled it. On top of getting away with it, they got a new charter, more generous than that of any other colony, in spite of very little bargaining power vis-a-vis the Crown.

A good deception requires covering the tracks. Cotton Mather could not destroy the commodity money act in the Court Records, as he did with his letters and diary of these years, but he was the leading contemporary historian. Writing in 1697, with the deceived king still in power, he could not disclose the deception, just as he could not expose his role in the 1689 revolution. Later historians mostly followed his account.

As Cotton Mather predicted, the 1690 money proved to be a useful example for all other nations<sup>109</sup>. It was incredibly easy to create such currency and to get it to circulate. All that was needed was a printing press and making the money legal tender in at least some important payments to and from the government. There was no need to obtain precious gold or silver. No need to monitor market transactions and punish anyone for

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<sup>108</sup> In the nineteenth century England and Kansas chose more obvious ways of effectively forcing creditors to accept some paper money without formally calling it “legal tender.” See Nussbaum (1950), pp. 47-8, Hurst (1973), pp. 140-5, respectively.

<sup>109</sup> Mather, p. 43.

using other types of money. That is how our modern currency is supported. It is intrinsically useless, inconvertible legal tender<sup>110</sup>, which does not rely on the outlawing of most other forms of payment.

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<sup>110</sup> Legal scholars call it “fiat money.” Sadly, economists omit from this definition the legal tender part.

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