

The Massachusetts Open Market Committee (1690)

Dror Goldberg

Department of Management and Economics

The Open University of Israel

July 2019

Abstract

In 1690 Massachusetts appointed a committee to inject new paper money into the economy. The committee had checks and balances between the executive, the legislature, and the private sector. It injected the new money by open market purchases of government debt. Massachusetts thus foreshadowed the Federal Open Market Committee and monetary policy committees of other countries, which were (re)invented in the twentieth century. The balanced composition of the committee followed a long tradition of committees that routinely helped the executive to run the colony. The use of open market purchases was an improvisation at a time of great constitutional upheaval. As the injected paper money itself was highly innovative, colonial America thus proved to be a major source of financial innovation. The use of constitutional checks and balances long before the American Revolution perhaps explains why the open market committee was reinvented in the United States rather than elsewhere.

* This paper is part of a book project, *How Americans invented Modern Money, 1584-1692*, under advance contract with The University of Chicago Press. For comments and suggestions I thank participants at seminars and conferences (Interdisciplinary Center, Ariel U., Money, Credit, and Banking Forum of the Economic History Association of Israel, Israeli History and Law Association, Israeli Economic Association).

1. Introduction

Central banks' monetary policy committees, such as the Federal Open Market Committee, and their open market operations, have become high profile topics. The financial markets anxiously await the committees' regular meetings and closely follow the outcomes. The standard history of monetary policy committees and open market operations is that they originated in the twentieth century. The young Fed stumbled upon the effectiveness of open market operations in the 1920s when the markets were flooded with a large amount of war bonds, and the FOMC was established by law in 1933-1935 (Mishkin 2004, p. 420-1, Federal Reserve bank of Minneapolis 1988). Some scholars note earlier precedents of open market operations in Britain in the early nineteenth century (Bindseil 2014). The FOMC was nevertheless different from earlier British practice in that decisions were made by a formal committee, whose existence, members, and meetings were public information, even if they did not immediately get as much attention as they do now.

The FOMC was also different, and is still unusual among monetary policy committees, in the formal influence of the legislature, private banks, and private business on its composition. Seven of its members (the Board of Governors) are "appointed by the President, by and with the advice and consent of the Senate," while the other five voting members – presidents or first vice presidents of Federal Reserve banks – are appointed by the nonbanker directors of the Federal Reserve banks, who are typically active business executives. Three of these directors are elected by private banks and three are appointed by the Board of Governors (Board of Governors of the Federal Reserve System 2018, Sections 4, 10, 12A).

Some other countries also make an effort to escape complete domination of the monetary policy committee by executive appointees, giving appointing powers to

the legislature or including active business executives in the monetary policy committees themselves.¹ With no clear theoretical answer regarding the optimal composition of a monetary policy committee, the only consensus is that some balance between the executive and other interests and points of view is needed.² The global trend towards central bank independence and the beginning of central banking in post-Communist countries led many legislatures in the past generation to contemplate the right composition of such committees. In Israel, political struggle over the composition delayed legislation for more than a decade.

This paper argues that America had known open market operations and a politically balanced open market committee long before the twentieth century. In 1690 the English colony of Massachusetts Bay issued tradable bonds to its creditors, and later offered to purchase back these bonds with a completely new instrument: Legal tender paper money. These open market purchases were intended to increase liquidity that was demanded by many reluctant creditors – “mutinous” unpaid soldiers. A committee was appointed to issue the paper money in the quantity, denominations, and timing it wished, subject to legislated bounds. The committee's five members were all merchants. They included the colony's Treasurer, another member of the executive (which was also the upper house of the legislature), the Speaker of the lower house, and two private people. The latter three members were also creditors of the government around that time. Each single note issued had to be

¹ In Sweden the parliament appoints those who appoint the Executive Board of the pioneering Riksbank (Riksbank 2018). Business executives serve in Australia and India (Reserve Bank of Australia 2018; Reserve Bank of India 2018, Sections 8-10).

² Other balances concern regional representation, as in the United States and the European Union, and a distinction between central bank's insiders and outsiders as in Israel.

manually signed by three of the five members, assuring checks and balances between the executive branch, the legislative branch, and the private sector.

The 1690 paper money is well known in monetary history – as the first paper money of English America. Imitated by all the British colonies in the following century, it made British America the first Western society to use government-issued paper money on a regular basis. In Goldberg (2009) I argued that the 1690 money was even more important than that. Being inconvertible and legal tender for taxes, it was nearly identical to our modern money, and it was the first such money in history. I also showed there that this innovation was caused by temporary constitutional problems with England in that revolutionary period.

However, the fact that this money was injected by a monetary policy committee through open market operations has never been noticed. This paper explains these two features. The open market operations stem from the same source that resulted in the invention of legal tender money – the constitutional problem with England. The monetary policy committee, on the other hand, has completely different origins. The legislature’s creation of a successful political balance, with hardly any theory – economic or political – as guidance, is attributed to the standard use of ad hoc committees by the colony's leadership, especially in time of war.

The paper is organized as follows. Section 2 provides background on the constitutional structure of the colony – its organs of government and regular use of ad hoc committees. Section 3 describes the circumstances of 1690, establishes that deliberate open market purchases took place, and explains why it happened. Section 4 examines the 32 committees that were established in Massachusetts in the period immediately preceding the formation of the monetary policy committee. Section 5

introduces the committee members. Section 6 explains the committee's inclusive and balanced composition in the context of preceding committees. Section 7 concludes.

2. Constitution and Committees in Massachusetts, 1629-89

This section begins with the standard account of the constitutional history of the chief Puritan colony. It then turns to one aspect which never received attention in the literature: The frequent use of ad hoc committees to run the colony.

2.1. Constitution

The Governor and Company of the Massachusetts Bay in New England received a charter from King Charles I in 1629 to settle that part of America. There was not yet a political doctrine of separation of powers, and anyway nobody would have applied it to a commercial corporation such as this one. Most executive authority was given to the Court of Assistants, composed of a Governor, a Deputy Governor, and 18 Assistants. Legislative and appointive authority was given to the General Court, which included these 20 men and all other shareholders. These two Courts were supposed to stay in England, as was the case with earlier colonizing companies (Virginia, Bermuda). Whoever would be in charge on the ground was to get judicial authority from the General Court (Shurtleff 1853, vol. I, p. 10-17).

In 1630 the company unexpectedly relocated itself (the Court of Assistants and the seal) to Massachusetts Bay, turning a commercial venture into a semi-autonomous Puritan refuge. The shareholders remained in England, making the Court of Assistants identical with the General Court. The Governor, Deputy Governor, and Assistants thus appropriated all executive, legislative, and judicial power. The population demanded some power, and soon each town sent Deputies to the General Court instead of the absentee shareholders. In 1644 the General Court became a bicameral legislature: The Court of Assistants, a.k.a. Council, and the House of Deputies. As in

Parliament, any bill needed to be approved by both houses before it became law. The two Courts held the most important judicial authority, relegating normal judicial matters to county courts, which were dominated by the Councilors living in those counties (Haskins 1960, ch. 3, Breen 1974, ch. 2).³

The Council kept most routine executive authority as the Governor's Council, but the General Court had executive authority when it convened (usually two months a year). The Court also controlled appointments and land grants, in addition to its main legislative function. There were very few officers at the colonial level: Treasurer, Major General, and Commissioners (diplomats). They were all elected every year by the population, as were the Councilors and Deputies, and in time it became common to elect only Assistants to these offices (Shurtleff 1853-54, *passim*). Though up for election every year, the Assistant's office was de facto for life, with the population giving deference to these most esteemed gentry-level men, re-electing them again and again except for extraordinary circumstances.

The central government did very little in peacetime. Most everyday business, as in law, education, and welfare, was done by the county, town, church, or the private economy. The main annual tax at the colonial level was 1/240 ("penny in the pound") of a person's property. By default, it was collected not in gold or silver coin but in local agricultural products, mainly grain and cattle. All English colonies suffered from coin shortage and made similar improvizations. Massachusetts was more creative than the rest, giving legal tender status (for debts and taxes) even to bullets, Indian seashell money, and salted fish.

³ Councilors included the Governor and Deputy Governor who were not Assistants. They were also called magistrates, in accordance with English terminology, because of these local functions.

In 1684 King Charles II revoked the Massachusetts charter. One of the main reasons or excuses was that Massachusetts eventually became the only colony to mint its own coin, and it forced it on creditors as legal tender. This violated the royal prerogative which included a monopoly on minting and on determining what was money (Goldberg 2009). In 1686 a new regime – the Dominion of New England – was put in place. King James II appointed a local President and Council who held all power. Soon an English Governor replaced the President. He managed to provoke raids by the Indian allies of French Canada on the northern fringes of English colonization.

2.2. Committees

There were many bodies referred to as committees in the records. Our interest lies with the numerous ad hoc committees rather than with the few standing committees. An example of a standing committee is the committee of militia which each town had and which managed the whole military aspect of life in town – training, equipment, and drafting in war.

On the other hand, a committee is an ad-hoc committee if it is appointed for a specific task and dissolves once that task is completed. It is useful to define three types of ad-hoc committees. An *executive committee* has an operational task to perform. An *advisory committee* debates a specific issue and returns its opinion to its appointer. A *fact-finding committee* looks for evidence on a specific issue and reports its findings to the appointer.

Notable examples from Early Modern England will illustrate the definitions. Executive committees of translators, appointed by King James I, created King James Bible in 1604-11 (Allen 1969, p. 4-7). The House of Lords and House of Commons regularly had ad hoc committees to process bills. These were advisory committees

because the Houses later voted on the processed bills (today standing committees do that in the United Kingdom and Israel). Differences between the Houses were regularly settled by ad hoc conference committees. As for fact-finding committees, the English legal system routinely relied on such committees of ordinary men – the grand jury and petit (trial) jury, and there were even coroner’s juries to investigate suspicious deaths.

By 1629, committees had been common in chartered companies such as the Virginia Company (Kingsbury 1906-35, *passim*). The Massachusetts Bay Company already had committees – presumably composed entirely of shareholders – in England in 1629, when it still behaved like a normal company. Its committees were often ordered to act by majority of their members. This allowed action when either some members, or a consensus, were absent (Shurtleff 1853, vol. I, p. 30-64).

The transition from a commercial corporation to a colony did not result in setting up a state’s standing bureaucratic machinery, and so the government continued relying on ad hoc committees. The overworked Councilors kept to themselves only important committees but relegated other committees to unelected men. These men served as an ad hoc, unpaid, flexible, and temporary bureaucracy. Some of them probably had relevant expertise, and personal interest in the outcome was not always considered a problem. Soon some committees had a mixed membership of Councilors and unelected men, and as soon as the Deputies joined the General Court they too became members in committees (Shurtleff 1853, vol. I, p. 94-119).

While the inclusion of unelected men in executive committees can be attributed to their sheer numbers of thousands (being the largest pool of candidates), the same cannot be said about the few dozen Deputies. It seems that the main reason for having Deputies in executive committees was that they could veto any

appointment of a committee, and they used this power to obtain checks and balances. If the Councilors could serve in both the executive branch and the legislative branch, in accordance with the charter, why couldn't Deputies do the same through membership in executive committees?

For half a century, committees were regularly appointed by the General Court in every session to handle a large variety of issues. Some were committees on bills, as in Parliament, but most were executive committees. Mixed membership of committees (Councilors and Deputies) was the default arrangement, as opposed to Parliament's less standard use of conference committees. The use of unelected men in committees was only in cases of little importance or ones in which an unelected man had a special expertise on the matter, either because of his profession or because there was a local issue and he was local. Periods of military activity saw a marked increase in the use of committees, as there was no War Department, and the small, relatively dormant central government suddenly needed to become extremely active.⁴ With two sessions a year, and a few committees appointed in each session, the total number of committees appointed by 1686 must have been between 500 and 1000.

Led at first by locals, the new Dominion regime of 1686 kept using committees, of Councilors and others, as a matter of course. The committees served as a partial substitute for the formal representative government that was gone, most notably in a 32-member "grand and standing committee" to advise on economic matters (Toppan 1899a, especially p. 248-9). The English Governor that soon replaced the local President appointed two committees of Councilors in his first two weeks, and that was enough for him (Toppan 1899b).

⁴ The earliest example is the scare of English invasion in 1634-35 (Shurtleff 1853, vol. I, p. 120-46).

3. War and Open Market Operations, 1689-90

In late 1688 King James II was deposed in the Glorious Revolution, and on 18 April 1689 Boston revolted and imprisoned James's governor.⁵ A provisional revolutionary government of 15 men was established, called the Council for the Safety of the People and Conservation of the Peace. It was soon enlarged to include more of the leading men. After much deliberation it was decided to resume the charter form of government de facto, but not declare the charter revived because that could be done only by England. The last elected Councilors of 1686 took their place as the old-new Council. The colony's agents in London, led by Harvard's President Increase Mather, were already trying to get England to revive the charter or grant a new one.

The Glorious Revolution saw Catholic James fleeing to his cousin Louis XIV of France. Soon war broke between England and France, and it would last a generation. The war spilled over to America, setting the English colonies for the first time against French Canada in what would be known in its first phase as King William's War.

In November 1689 a new tax was voted "for paying of soldiers" and other war expenses (Moody and Simmons 1988, henceforth MS, p. 172-3). The following month, a financial instrument called "debenture" appears in the records. This would be the subject of massive open market purchases a year later. The debenture, literally meaning "there are owing (to me)" in Latin, was a public IOU used in seventeenth century England in only two specific meanings: Customs rebates and payments to land soldiers. In the latter context, a debenture was issued by a military officer when a soldier was discharged, specifying exactly how much money the Treasury owed him. The debenture had been infamously used in the English Civil Wars of the 1640s. They

⁵ General background on all the 1689-90 events is in Moody and Simmons (1988), p. 1-41.

were sometimes not paid (in coin) for months or years, and this fact had major implications because of the Army's decisive political power. The debentures in England were legally tradable in a secondary market and were discounted, sometimes by more than 90% of their face value, by those who were more patient than the hungry soldiers. Often these were the soldiers' own officers (Habakkuk 1962).

Such instruments had been in use already in Massachusetts' earliest Indian war (1637), when they were called "notes" (Shurtleff 1853, vol. I, p. 188). The name "debenture" first appeared in the records in the first war following its use in the English Civil Wars. This was the Indian war of 1675-76 (Shurtleff 1854, vol. V, p. 51, 90, 95). With the beginning of a new war, in December 1689 the name "debenture" re-appeared. It was decided "to grant debentures for wages to the soldiers that have been lately employed in their Majesties' service against the common Indian enemy" (MS, p. 182).

The only two surviving copies of debentures from the beginning of King William's War are from March and June 1691. The text was standard, and can safely be assumed to have been the same in 1689-90:

Boston in New England. March 16, 1691

Mr. Treasurer.

There is due unto John Corser for serving their majesties against the French and Indian enemy as a cruiser under the command of Capt. Joseph Eldridge the sum of six shillings (Massachusetts Archives, Suffolk Court Files, 2613).

Debentures were soon issued to all the government's creditors, including lenders of money, voluntary suppliers, and those whose goods were impressed (MS, p. 190, Massachusetts Archives Collection, henceforth MAC, vol. 37, p. 69, vol. 100, p. 452, 454).

The war escalated in the beginning of 1690 and in March an additional tax was enacted (MS, p. 224). One resident, Dr. Benjamin Bullivant, wrote then to England:

The soldiery about this time that were returned from the eastward [New Hampshire and Maine] were in a high disgust for their pay ... and spoke very insolently to their new masters [government] publicly in the streets ... the constables are pressed to collect the new rates [taxes], but have so much work to distrain the very many refusers, that little came in. In the mean time to stop the soldiers' clamors, they had debentures on the constables, but could not be paid unless they would abate for present pay some 25, some 50 per cent, according as their necessities were (Foote 1878, p. 106).

Bullivant meant that the constables (local tax collectors) were supposed to redeem debentures, instead of letting the soldiers wait for the tax receipts to reach the Treasury. It's not that the constables gave the soldiers the tax receipts they had and promised to give more later. Rather, they discounted the debentures by 25-50%, and kept the debentures for future redemption at their face value for their personal profit. That was perfectly legal in that culture, where there was no strict separation between the person filling a public office and that office. The soldiers' "abate[ment]" means that they permanently gave up that part of the payment, and they did so "for present pay." Although Bullivant was an officer of the previous regime and an enemy to the contemporary one, his claim is entirely consistent with the secondary market of debentures in the English Civil Wars.

Massachusetts started its offensive war by sending a naval expedition to the barely populated French province of Acadia (Nova Scotia). After the French surrendered, the returning land forces received debentures, while the marine forces received essentially identical instruments called "tickets," this different terminology being in accordance with English custom (MS, p. 258-9). Success led the colonies to plan an attack on Quebec City. During the summer preparations an additional tax was

raised, but the March tax was not coming in fast enough (MS, p. 267). A large fleet sailed in August and was roundly defeated below Quebec City, dashing the reckless hopes of Councilor Elisha Hutchinson to use loot from Quebec to pay for the expedition (United Kingdom, Public Records Office, Colonial Office 5/855, p. 75).

As the ships straggled back in the fall of 1690, the government became aware of a serious budgetary problem with regard to payment to the soldiers. The legislature convened for an emergency meeting, enacting yet another tax (MS, p. 283). All the returning troops were given debentures, and the English distinction between land debentures and marine tickets disappeared (MAC, vol. 36, p. 259a). To ease on the soldiers, their fresh debentures were made eligible to be used in the latest tax payments (MS, p. 283). This also increased the attractiveness of debentures in their secondary market. The government tried to obtain loans from the population (MS, p. 284), but apparently failed. The taxes, paid in coin, grain, and other agricultural products, were not collected quickly enough for the hungry, sick, and frozen soldiers. The soldiers became "mutinous" (Mather 1697, p. 44).

Such a situation was entirely normal in the Early Modern Period, when the bureaucracy of the emerging fiscal-military state failed to catch up with the increasing costs of warfare (known as the Military Revolution). In Europe, unpaid soldiers mutinied violently, defected, or stopped fighting. They often went to the countryside to get their food and supplies by force or sacked entire towns (Parker 1972).

At this point someone in Massachusetts had the idea of turning the debentures into (paper) money. Whereas each debenture was named and had a large, non-round amount, it could be replaced by a few anonymous notes of standardized, round, and low value. For example, a debenture for seven pounds and fifteen shillings (a few months' pay) could be broken into one note of £5, two notes of £1, one note of 10

shillings and one note of 5 shillings. This is something the soldier could easily go shopping with. Apply the same promises of the debenture – future payment in "real" money (coin, grain, or whatever) and eligibility to be used in tax payments – and the problem is solved.

Since the debentures had already been given to soldiers, they had to be brought back to the government in order to convert them into the new paper money. However, there was a constitutional problem with this money. The colony was not allowed to issue money and force it on any creditor as legal tender. Recall that previously doing so with coin had contributed to the revocation of the charter in 1684. In 1690 the colony needed to be careful not to offend the English Crown again on that matter because it was actively negotiating for charter restoration. The paper money was therefore not forced on anyone, including the soldiers, other than the issuing government itself as tax collector. In that sense it was no different from any private IOU. Accordingly, the paper money was officially called "bills" rather than "money" or "paper money" (Goldberg 2009).

If the bills could not be forced on the soldiers as money, the bills could be offered voluntarily to them, in exchange for their debentures of course. In fact, what happened was that a committee, appointed by the legislature, purchased the debentures with the newly issued paper money. As in modern open market purchases, this was deliberately aimed at increasing liquidity in the market, in particular for the hungry soldiers who were reluctant holders of government bonds.

This was not a legal redemption of the bonds, but merely their purchase. Why? First, the paper money committee was not the Treasury. The Treasurer was a committee member, but he could be outvoted (much more on that below). Second, the bills were not legal money. They were just "bills," whereas the legal money in the tax

payments that were meant to redeem the bonds was either coin ("money") or specific agricultural products – wheat, corn, barley, malt, peas, oats, pork, and beef (MS, p. 279, 283).

There are two pieces of evidence regarding the existence of a market in debentures as in England. Bullivant's testimony, quoted above, is the first evidence. The other piece is indirect and dates from January 1691, right after the new bills were issued. There is a complaint then about people "purchasing them with little money" (Davis 1910, vol. I, p. 194). Translation: people purchased the new bills with coin at a discount. This secondary market in government debt instruments is consistent with Bullivant's evidence from 10 months earlier. From these two pieces of evidence it seems reasonable to assume that in December 1690, when the government decided to offer to purchase its own debentures with bills, it was not inventing a secondary market in debentures but it entered an active market in public financial instruments.

4. War by Committees, 1689-90

Having established that there were open market purchases, I turn to the use of a monetary policy committee. The permanent structure of government was still too bare to be effective during the war, and the General Court resorted to many ad hoc committees, in accordance with a six-decades tradition. Let us examine the aggregate data, types of committees, and how much representation there was in them to each of the three *sectors* in society – Councilors, Deputies, and unelected men.

4.1. Aggregate data

The first committee was established five days after the revolution. For the purposes of this paper, however, this committee is of little use. I am interested in the balance between members of various branches of government, while this committee was established when there was only one emergency Council for Safety doing everything.

Representatives from all over the colony, replicating the lower house of the charter days, assembled two weeks later, on 9 May 1689. From that date until (not including) the appointment of the monetary policy committee on 24 December 1690, there were 32 committees that satisfy the following criteria: First, the date of appointment is known. Second, the word "committee" or "commissioners" (members of a committee) is explicitly stated in the records. Third, the exact number of members from each sector can be determined. Only the original creation of each committee is considered (some had later changes to their composition and duties). All these committees are listed in the Appendix.

Figure 1 shows the timeline of the committees' appointments, where the bars indicate the number of members in each committee. The clusters reflect the regular meetings of the General Court, as well as irregular meetings of the Court or Council that are correlated with war developments. Clusters appear right after the revolution, after the King's approval of the revolutionary government was received in December 1689, before the Nova Scotia expedition (March 1690), before the Quebec expedition (summer 1690), and after the Quebec expedition (fall 1690). The last bar is the monetary policy committee of 24 December 1690.

Figure 2 condenses the timeline and breaks each committee to the number of Councilors, Deputies, and unelected men. There is no apparent time trend in either the total number of members in each committee or in the composition of each committee. Before the monetary policy committee there were 172 members appointed to 32 committees, with repetition as some men were in more than one committee. The percentages of Councilors, Deputies, and unelected men were 29%, 22%, and 49%, respectively. Councilors were members in 56% of the committees, Deputies in 47%,

and unelected men in 66%. We can gain more insights about these numbers by classifying the committees to three different types as in Section 2.

4.2. Types of committees

There were 22 executive committees, 6 fact-finding committees, and 4 advisory committees. Executive committees dealt mostly with war issues. Half of them acquired and sent troops and supplies to the front, while others handled fiscal issues and composed instructions to diplomats sent to Indians and to England. In the executive committees, 34% were Councilors, 18% were Deputies, and 48% were unelected men. Given that in the General Court there were at least twice as many Deputies as Councilors, the fact that executive committees had twice as many Councilors as Deputies indicates that the appointing legislators clearly wanted – reasonably enough – the executive branch to form the key component of the executive committees. The numerical predominance of executive committees leads to the statistic mentioned above, that in all the committees combined there were more Councilors than Deputies. In fact, since most Councilors did not have specific responsibilities at the colonial level, they implicitly served as a pool for high-quality candidates for executive committees. They were not ministers *without* portfolio as in later British governments but ministers with *shifting* portfolio.

Some executive committees dealt with cleanup of previous expeditions. They received loot and disposed of prisoners of war, and – most importantly here – they granted the abovementioned debentures and tickets, based on accounts and certificates of commissaries and officers. The debenture committee had five members, and the authority lay with "all or any three of them" (MS, p. 182). They were all unelected men. Two of them had been members of the provisional revolutionary government. Soon the committee's role was generalized to "receive, examine, and audit" all war-

related accounts and bills (MS, p. 190). The three-men ticket committee had a similar responsibility, but only regarding the marine forces of the Nova Scotia expedition. These men were also all unelected.

Understandably, the debenture and ticket committees were both headed by Boston merchants. With no banks around, nobody could handle and examine bills and accounts and issue financial instruments better than merchants, and most of them lived in Boston. The debenture committee included four Boston merchants. The fifth member was the mathematician son of another Boston merchant who had been Boston's Treasurer. The head of the debenture committee was Eliakim Hutchinson, whose father had been Cromwell's Treasurer of Navy (Aylmer 1973, p. 247-50). Curiously, both him and the head of the ticket committee, Thomas Savage, were cousins of the abovementioned Councilor Elisha Hutchinson.⁶ They were probably appointed because he was the leading man on fiscal and military affairs (see below).

As for the other types of committees, the important fact-finding committees took lists of refugees, arms and ammunition, the public debt, and the crimes of the previous dictatorial regime. The advisory committees advised the government what to do with the Indians and Nova Scotia, how many soldiers to draft from each town, and how to change tax laws. To have a genuine outside opinion it was deemed best not to include too many of the decision-makers themselves in the advisory committees. Therefore, these committees included many unelected men (58%) and few Councilors (12%). Most of these unelected men had been Deputies or members of the provisional revolutionary government, and were still in office in local government and militia. There were no former Councilors in the advisory committees only because Councilors were rarely voted out of office.

⁶ For the Hutchinson-Savage family tree, see Savage (1860-62), vol. II, p. 510-1, vol. IV, p. 26-7.

4.3. Inclusiveness

Among the executive committees that included Councilors, half also included Deputies. Only five executive committees were composed exclusively of Councilors, and three of them – on alcohol taxes (#2, 13, 30 in the Appendix) – merely followed an old tradition in that (e.g., Shurtleff 1854, vol. V, p. 352, 487). The desire of Deputies to be included in executive assignments was made explicit twice. They once voted "that there be a committee consisting of the members of both houses" to handle the militia, without regard to the exact numbers (MS, p. 94).⁷ When the Council appointed one of its members as an agent to represent the colony in England, the Deputies appointed one of their own to join that Councilor (MS, p. 180-1, 187, 194).

An *inclusive committee* is defined here as one which included at least one Councilor, one Deputy, and one unelected man. There were five such committees, and four of them were important. I argue that inclusiveness was intentional, symbolic, and used to show political consensus. The most important fact-finding committee documented the crimes of the former dictatorial regime, in order to justify the revolution to England (Committee #10 in the Appendix). The membership of the committee was 4-2-1 (four Councilors, two Deputies, and one unelected man). The largest committee prepared the Quebec expedition (#24), and had a 2-1-9 membership. Surely these committees would have functioned just fine with 4-2-0 and 2-0-9 memberships, respectively. An effort was probably made to make these committees publicly inclusive. The last two committees appointed before the monetary policy committee were also inclusive, reflecting the increasingly fragile legitimacy of the provisional government after the Quebec defeat (Breen 1974, ch. 4).

⁷ Nothing else is known about this committee so it is not included in the statistical analysis.

One was the committee to obtain a loan to pay the soldiers (#31), and the other was a committee to advise a revision of tax laws (#32).

5. Members of the Monetary Policy Committee

The order establishing paper money, dated 24 December 1690, included the following:

It is ordered by the Court, that Major Elisha Hutchinson, Major John Phillips, Capt. Penn Townsend, Mr. Adam Winthrop, and Mr. Timothy Thornton, or any three of them, be, and are hereby appointed, and empowered a committee for the granting forth of printed bills in such forms as is agreed upon by the Court (none under five shillings, nor exceeding the sum of five pounds in one bill) ... No more of said bills to be printed, or granted forth than the sum of seven thousand pounds (MS, p. 290).

The committee members were all merchants from the Boston area, as had been the heads of the debenture and ticket committees – and for similar reasons. In a colony without banks, merchants would know best the right range and quantities of denominations to print, and the overall quantity (subject to the above bounds), and also the proper timing of injecting the money. Their involvement would lend the merchants' great reputation as the leaders of the colony's economy, individually and as a class, to that unprecedented, risky financial experiment. They were all popular with their fellow colonists, having been elected to various public offices. Let us see in detail who these people were.

Councilor Elisha Hutchinson, 49, from Boston, was a Deputy (1680-84) and Assistant (1684-86), while serving in Boston as a member of the city council and a judge (Seybolt 1939, p. 52-75). He was a member of the social club of the Massachusetts elite – The Military Company of the Massachusetts (Roberts 1895, p. 214). He was a partner in an innovative bank project with land-backed paper money (Davis 1910, p. 10), which was shot down in 1688 by the dictator of the Dominion of

New England (Goldberg 2011, Goldberg and Milchtaich 2013). In 1690 he was a Councilor, the commander of Boston's regiment (MS, p. 257), and Boston's senior tax officer (Seybolt 1939, p. 80). He served in the executive committees which prepared the Nova Scotia and Quebec expeditions (#20, 23, 24). In October 1690 he was in a fact-finding committee, headed by a former Treasurer, "to examine the state of the country with respect to their debts, by the Treasurer's accounts" (#28). In November he was in an executive committee on alcohol taxes (#30) and headed an unusually large 10-men executive committee "to procure the sum of three or four thousand pounds in money [coin] upon loan for the present paying of seamen and soldiers at their return from Canada, and for other emergencies upon the public credit" (#31). By 24 December 1690, when the monetary policy committee was appointed, Hutchinson was the *only* man who had served on all the war-related fiscal committees of that year, and the only one who had served on the latest five executive committees. He was the obvious and natural candidate to lead the monetary policy committee – except that he wasn't the Treasurer.

Treasurer John Phillips, 57, was from Charlestown (then separate from Boston). He too was a member of The Military Company (Roberts 1895, p. 263) and a Deputy (1683-86). He declined serving as Treasurer in 1686. The 1689 Council invited him to join as Treasurer (MS, p. 85-95) and he continued after the 1690 elections. As part of this job he was in executive committees on alcohol taxes (#2, 13, 30) and in a committee to finance a ship informing England of the outbreak of war (#15). Together with a former Treasurer he was to "audit and settle the accounts of wages" of some soldiers returning from the front (MS, p. 110). He was also the commander of the Charlestown-Cambridge regiment (MS, p. 257), and also served in an advisory committee (#1).

Speaker of the House of Deputies Penn Townsend, 39, was a Boston alcohol merchant. He owed his political advance to family connections to the lay and religious elite (Wall 1990, p. 537-8). He too was a member of The Military Company (Roberts 1895, p. 231). In 1690 he was Speaker of the House of Deputies (MS, p. 237), a member of Boston's city council, a Boston judge, and he was entrusted to bring to the General Court the votes of Boston for Councilors (Seybolt 1939, p. 78, 80). He was appointed Commander in Chief of the Nova Scotia expedition (MS, p. 230) but gave that honor to another (Sewall 1878, vol. I, p. 255). He was a member of two war-related executive committees (#4, 7) and one fact-finding committee (#29), before his appointment to the Hutchinson-led loan committee (#31). In December 1689 he was ordered to help the Treasury by paying a certain public debt from his own pocket (MS, p. 183-4).⁸ It is possible that in December 1690 he was still a creditor of the government.

Adam Winthrop, 43, of Boston, was grandson of Governor John Winthrop, the colony's foremost founder. A Harvard graduate, he joined pioneering banking ventures which failed to take off, including the land bank mentioned above (Davis 1910, vol. I, p. 6, 10). Winthrop was a militia leader in the revolution and an original member of the Council for Safety. In it he served, with another merchant, as treasurer-at-war, responsible for supplying troops (MS, p. 55, 60-1, 66). As the Council for Safety was replaced by the 1686 Assistants, the latter promised that the departing treasurers-at-war "be reimbursed in convenient time" (MS, p. 82), implying that they spent some of their own money, which was normal in that era. Part of that promise

⁸ He was to be reimbursed by getting all incoming money from alcohol taxes until the debt would be repaid. This must have had something to do with him being an alcohol merchant. The government had already asked "gentlemen ... and persons of estate" to help the Treasury in such ways (MS, p. 137).

was soon fulfilled when Salem tax receipts were ordered to be paid to them to settle the colony's debt to them (MS, p. 102). Perhaps upset about a remaining debt, Winthrop refused to serve on an executive war-related committee (#5). It is possible that the colony still owed him considerable sums of money in December 1690. In 1689 he had also been a Deputy and a Boston judge, but his only office in 1690 was in Boston's city council (MS, p. 86, Seybolt 1939, p. 78, 80).

Timothy Thornton, 43, was an English immigrant who settled in Boston, and was still on his way up the social ladder. He was in two war-related committees (#8, 26) and was first elected to an important position (Boston judge) only in 1690 (Seybolt 1939, p. 78). In 1693 he headed a list of seven government creditors who petitioned the government to be repaid (MAC, vol. 100, p. 452), and it is possible that this debt was extant already in December 1690.

Of the five committee members, each one except Thornton had enough economic, social, political, or military prestige and standing, and the relevant expertise or experience, to issue the paper money alone on behalf of the General Court (especially the Treasurer). Why was there a need for five members? Why this mix of members? And why were at least three needed for emitting any single note?

6. Checks and Balances in the Monetary Policy Committee

The committee had five key features: It was an important executive committee, it was inclusive, it had five members, it acted by majority, and it had a balanced composition. Let us examine each of these features in detail, in comparison with all the preceding committees of the period 1689-90.

6.1. An important executive committee

It was an executive committee, ordered to print paper money and give it to government creditors in return for their debentures. The importance of committees

can be measured by the preambles of the orders appointing them. Most such orders had no preamble. They began with something like: "Ordered that [names here] are appointed... ." The key committees that prepared the Nova Scotia and Quebec expeditions (#20, 24) – one including the Governor and the other having the largest number of members – had unusually long preambles of 14 and 24 words, respectively, in the appointing orders. The monetary policy committee had a preamble of 165 words, which was by far the longest.

Why was it so important? The debt was estimated at £40,000 (Mather 1697, p. 43). That was about thirty times the annual peacetime budget.⁹ The committee had discretion regarding the denominations, the overall quantity to be issued, the quantity of each denomination, and the exact timing of injecting the money, subject to legislated bounds (the initial bound of £7000 meant that it was only an experimental first instalment). The consequences of these decisions were enormous. Printing too much money, in low denominations, and too quickly, would have resulted in inflation. Printing too little money, in high denominations, and too slowly, would have resulted in soldiers rioting and the war lost. Either failure would have put the provisional government under severe threat. This critical committee needed to be handled most seriously, and so Councilors had to be in it, including the Treasurer. By comparison, the debenture and ticket committees were merely accounting committees, requiring reliability, understanding, and exactness, but no discretion, and so all their members were unelected men.

⁹ Boston contributed about £200 in both 1687 and 1688 to the colony's tax (Whitmore and Appleton 1876, p. 91-134). Boston was home to one seventh of the colony's population (McCusker 2006, p. 5-651, 5-655). Assuming that non-Bostonians were not significantly richer than Bostonians (the opposite is more likely), this puts the annual peacetime tax at no more than £1400.

6.2. An inclusive committee

Given that Councilors had to be in the committee, why not have only them in it, as in some previous important committees? The risky financial operation by a barely legitimate, and not too successful government, required the show of consensus, and only an inclusive composition could achieve that. The inclusiveness probably went beyond the former definition of having at least one member from each sector. It is likely that government creditors, rather than other unelected men, were directly represented on the committee. As detailed above, Townsend, Winthrop, and Thornton were government creditors during part of the period 1689-93. It is likely that at least one of them was a creditor as of December 1690. Creditors had an interest in being paid as soon as possible with the best money available, but would not want inflation – caused by excessive money printing – to erode the debt owed to them.

6.3. Five members

The average membership of all committees was 5.38 (5.23 among executive committees). A membership of five was the second most common among all committees, after a membership of three. Therefore, there was nothing unusual in a membership of five.

6.4. Majority rule

It had long been standard in Massachusetts to allow a majority of committee members to act as the committee itself, and the same was true in 1689-90 (see #11, 23, 25).¹⁰ To remind, this was useful where no consensus could be reached within the committee, or when some members did not show up to a committee meeting. Therefore, allowing three out of five members to issue notes was not remarkable. In fact, the debenture committee had exactly this feature. The ticket committee, on the other hand, had only

¹⁰ Also see MS, p. 75, 210, for committees that do not satisfy my criteria.

three members and all had to sign each ticket. The fact that three signatures were needed for each debenture, ticket, and later paper money, raises the possibility that this was deemed a standard legal procedure to prevent corruption and to make it more difficult to counterfeit the financial instruments issued by the committees.

6.5. The balanced composition

The committee was inclusive, had five members, and any triplet of members was allowed to decide. But there was more than one option regarding the exact composition, and the consequences were serious. For example, it could have been a 3-1-1 composition, in which case a consensus among three Councilors would have been enough. In contrast, a 1-1-3 composition would have granted all power to the unelected men. The composition actually adopted assured that some form of coalition or cross-sector consensus would be required for any action. Three out of five members could be, for example, all the elected members, even if the unelected members opposed. Such a coalition between the representatives of both legislative chambers was thus deemed good enough to proceed with money printing. After all, the responsibility laid with them. Another minimal coalition could be one member from each sector – Council, House of Deputies, and private sector. This would reflect a minimal cross-sector consensus. Another minimal coalition could be all the non-Councilors. They could beat the Council's understandable desire to print money to get rid of its debt. Either coalition could help the paper money and the government behind it in their desperate struggle for legitimacy, showing on the face of each note the names of three well-known men who agreed to issue it.

An alternative explanation points at the similarity between the committee's composition of 40%-20%-40% and the average of all the previous executive committees (34%-18%-48%). Is it possible that the legislature had a desired

composition of committee membership in mind, as reflected in the average, and in the case of this most important committee it made an effort to hit on this desired composition with accuracy? There is a weakness in that explanation because no previous committee (executive or otherwise) had the exact ratio of 40%-20%-40% (the closest having 33%-33%-33%). But this approximate consistency with past practice should not be ignored. Given that the 2-1-2 composition was decided upon, for other reasons, its consistency with the historical average surely helped the monetary policy committee seem like a normal committee and helped its legitimacy, even if nobody consciously calculated averages.

To summarize, the authority and composition of the monetary policy committee can be understood in the context of previous executive committees. A five-men committee operating by majority was a normal thing, especially with regard to public financial instruments. The importance of the committee required it to have an inclusive and balanced composition.

7. Conclusion

English (later British) Colonial America did not have gold, private banks, central banks, corporations, insurance companies, and a stock market, and the literature has not mentioned any government bonds. It is therefore perceived as a financial backwater relative to Great Britain. However, in a single legislative act in 1690, Massachusetts was way ahead of its time when it made a triple innovation on a global scale: The first legal tender paper money in Western civilization, the first open market purchase, and the first monetary policy committee. The two latter inventions constitute an open market committee similar in principle to the modern FOMC.

The invention of legal tender paper money had been explained before as a combination of tradition with exigency: Decades of rich experience with other types

of money, combined with an English constitutional limitation which did not allow forcing paper money on anyone (Goldberg 2009). The Massachusetts open market committee which issued this money can also be understood as a combination of tradition with exigency. The exigency came from the same constitutional problem that prevented forcing the money on soldiers, and required voluntary, open market purchases of the debentures with the new money. The tradition was the use of hundreds of ad hoc committees to run the colony and especially its wars.

While it is common today to think of checks and balances as amending separation of powers, Massachusetts had it differently. In that pre-Montesquieu era there was no separation of powers, and certainly none was envisaged for a commercial corporation. The de facto constitution of the Massachusetts colony (as opposed to the Massachusetts company) featured by accident an all-powerful Council, which had all executive, legislative, and judicial authority. Through popular protest, some of the power was taken away and given to Deputies who checked the Council's power and balanced it. The mix of powers and branches within the General Court, together with practical needs and occasional symbolism, led to the creation of executive committees which included Deputies and unelected men. This is the context in which the political balance of the open market committee should be understood.

The participation of unelected men in committees – including the most important executive committees – foreshadowed the distinctly American conception of citizenship. In the United States unelected people are not merely voters, ceasing to exist between election days as they seem to be in most democracies. They continuously serve as an essential and active ingredient of the system of checks and balances, sometimes to the astonishment of most foreigners and even of many Americans. They not only serve in jury as in the United Kingdom, but they have a

right to bear arms ("necessary to the security of a free state" according to the Second Amendment) and their private banks own the central bank. They can all be elected to public office as a mere phase in life without becoming career politicians as in most democracies.

The direct involvement of the Treasurer and another Councilor in monetary policy is not in line with most of today's monetary policy committees, but we must keep in mind that theories of central bank independence laid centuries ahead. In the United Kingdom, where the Monetary Policy Committee took authority from the Treasury only in 1998, the Treasurer's representative is present in the Committee meetings but has no vote (Bank of England 2018). In Australia, the Secretary to the Treasury (a subordinate of the Treasurer) is a voting member of the Governing Board (Reserve Bank of Australia 2018). As that Board also includes business executives, it has perhaps the most similar composition to that of the Massachusetts Open Market Committee. Even in modern standards then, the 1690 Massachusetts committee was a remarkable legislative piece of checks and balances.

Important questions yet need to be answered. Where were open market operations and monetary policy committees between 1690 and their reinvention in the twentieth century? Future research should look into their development in Massachusetts and in the colonies which imitated its paper money. It is possible that decades of experience with open market committees lie hidden in the colonial records. The other New England colonies copied the text of the Massachusetts paper money almost verbatim, and also had three signatures on each note for many years (Newman 1967). Who were these people? What was their authority? What was the relation between the composition of monetary policy committees over time and the increasing rate of inflation which has been such a stain on the colonies' monetary legacy? When

was the earliest measurable effect on interest rates? Did debentures continue to play a role in monetary policy? When did the first open market *sale* occur? And how did Americans forget their 1690 achievement in monetary checks and balances, leading them to create *two* politically unbalanced central banks (Bank of the United States) which did not survive the test of time?

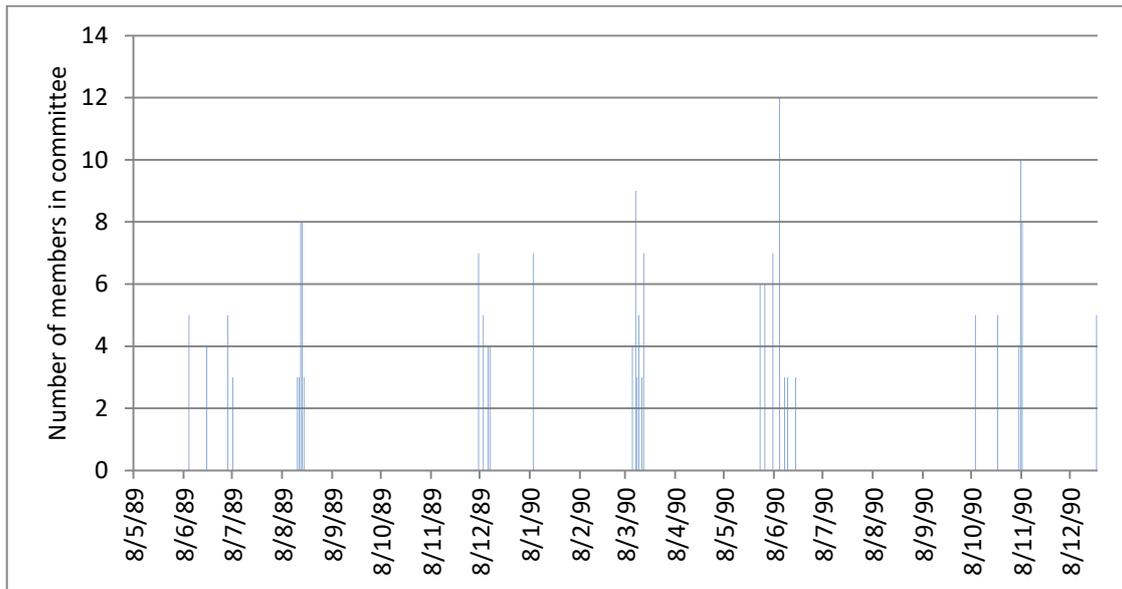
Appendix

The committees are listed in chronological order. Each line has the following information: My classification of committee type, the committee's role, the membership of the committee in the format "X-Y-Z" (X Councilors, Y Deputies, Z unelected), the date of appointment, and the reference to page number in Moody and Simmons (1988) in the format "MS [page number]."

1. Advisory: Advise about enemy Indians, 2-3-0, 11 June 1689, MS 96.
2. Executive: Determine alcohol taxes, 4-0-0, 22 June 1689, MS 109.
3. Executive: Send soldiers to the front, 2-3-0, 5 July 1689, MS 122.
4. Executive: Send soldiers to the front, 1-1-1, 8 July 1689, MS 126.
5. Executive: Provide supplies to soldiers, 0-1-2, 17 August 1689, MS 138.
6. Executive: Provide supplies to soldiers, 0-0-3, 19 August 1689, MS 140-1.
7. Executive: Write instructions to diplomats, 3-5-0, 19 August 1689, MS 141.
8. Fact-finding: List names of refugees, 0-0-8, 20 August 1689, MS 142.
9. Fact-finding: Account for arms and ammunition, 0-1-2, 21 August 1689, MS 146.
10. Fact-finding: List crimes of previous regime, 4-2-1, 7 December 1689, MS 181.
11. Executive: Grant debentures to soldiers, 0-0-5, 10 December 1689, MS 182.
12. Executive: Write letters to England, 4-0-0, 13 December 1689, MS 183.
13. Executive: Determine alcohol taxes, 4-0-0, 14 December 1689, MS 184.
14. Advisory: Advise about Nova Scotia, 0-0-7, 10 January 1690, MS 193.
15. Executive: Finance a ship to England, 1-0-3, 12 March 1690, MS 219.
16. Executive: Assign taxes to towns, 3-6-0, 14 March 1690, MS 224.
17. Executive: Manage a new town, 0-1-2, 15 March 1690, MS 226.
18. Executive: Provide supplies to expedition, 0-0-5, 15 March 1690, MS 226.
19. Fact-finding: Inquire into a widow's finances, 0-0-3, 18 March 1690, MS 225.

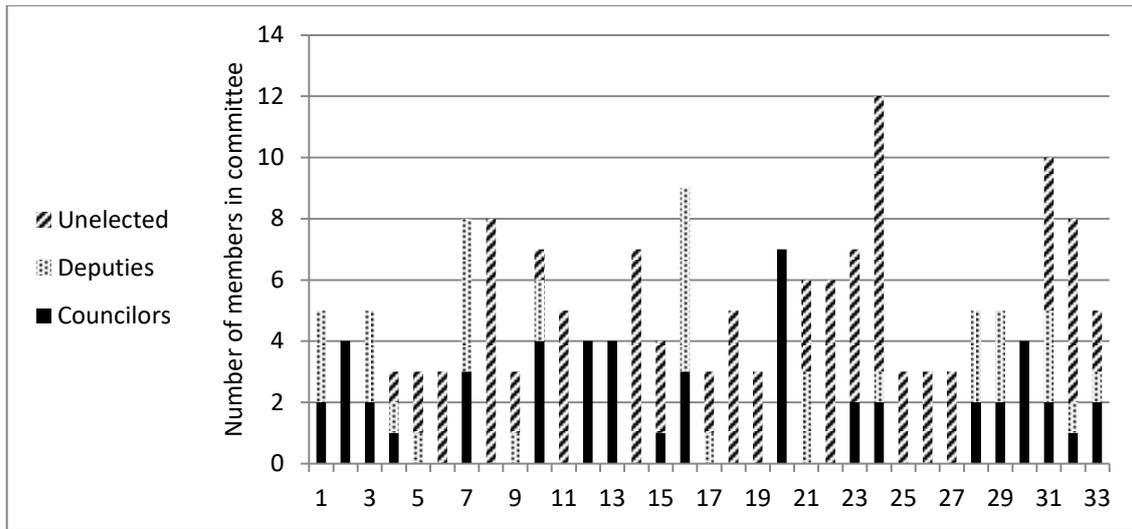
20. Executive: Impress men, supplies for expedition, 7-0-0, 19 March 1690, MS 228.
21. Advisory: Advise on drafting soldiers, 0-3-3, 30 May 1690, MS 244.
22. Executive: Receive Nova Scotia plunder, 0-0-6, 2 June 1690, MS 245.
23. Executive: Prepare Quebec expedition, 2-0-5, 7 June 1690, MS 249.
24. Executive: Prepare Quebec expedition, 2-1-9, 11 June 1690, MS 251.
25. Executive: Dispose of prisoners of war, 0-0-3, 14 June 1690, MS 253.
26. Executive: Search and seize gun powder, 0-0-3, 16 June 1690, MS 254.
27. Executive: Grant tickets to sailors, 0-0-3, 21 June 1690, MS 258-9.
28. Fact-finding: Examine public debts, 2-3-0, 10 October 1690, MS 277-8.
29. Fact-finding: Peruse laws on vice, 2-3-0, 25 October 1690, MS 280.
30. Executive: Determine alcohol taxes, 4-0-0, 6 November 1690, MS 283.
31. Executive: Borrow money to pay troops, 2-3-5, 6 November 1690, MS 284.
32. Advisory: Advise on revising tax laws, 1-2-5, 6 November 1690, MS 284.

Figure 1: Timeline of all committees and number of members, 1689-90



Note: References for all committees are in the Appendix. When two committees were appointed on the same day, the latter committee is depicted here on the next day.

Figure 2: Composition of all committees, 1689-90



Note: References for all committees are in the Appendix.

References

- Allen, Ward, ed. *Translating for King James*. Nashville: Vanderbilt University Press, 1969.
- Aylmer, G.E. *The State's Servants: The Civil Service of the English Republic, 1649-1660*. London: Routledge & Kegan Paul, 1973.
- Bank of England. "Members of the Monetary Policy Committee."
<https://www.bankofengland.co.uk/about/people/monetary-policy-committee>, 2018.
- Bindseil, Ulrich. *Monetary Policy Operations and the Financial System*. Oxford: Oxford University Press, 2014.
- Board of Governors of the Federal Reserve System. "Federal Reserve Act."
<http://www.federalreserve.gov/aboutthefed/fract.htm> , 2018.
- Breen, T.H. *The Character of a Good Ruler: A Study of Puritan Political Ideas in New England, 1630-1730*. New York: W.W. Norton & Company, 1974.
- Davis, Andrew McFarland. *Colonial Currency Reprints, 1682-1751*. 4 vols. Boston: Prince Society, 1910.
- Federal Reserve Bank of Minneapolis. "Discovering Open Market Operations." *The Region* (1988).
<https://www.minneapolisfed.org/publications/theregion/discoveringopenmarketoperations>
- Foote, H. W. "Journal of Dr. Benjamin Bullivant." *Proceedings of the Massachusetts Historical Society*, First Series, vol. 16 (1878): 101-8.
- Goldberg, Dror. "The Massachusetts Paper Money of 1690." *Journal of Economic History* 69 (2009): 1092-1106.
- Goldberg, Dror. "Why was America's First Bank Aborted?" *Journal of Economic History* 71 (2011): 211-222.

- Goldberg, Dror and Igal Milchtaich. "Property Rights under Administrator-Dictators: The Rise and Fall of America's First Bank." *Journal of Economic History* 73 (2013): 1098-1124.
- Habakkuk, H.J. "Public Finance and the Sale of Confiscated Property during the Interregnum." *Economic History Review*, New Series, 15 (1962): 70-88.
- Haskins, George Lee. *Law and Authority in Early Massachusetts: A Study in Transition and Design*. New York: The Macmillan Company, 1960.
- Kingsbury, Susan Myra (ed.) *The Records of the Virginia Company of London*. 4 vols. Washington: Government Printing Office, 1906-1935.
- Massachusetts. Massachusetts Archives. Dorchester, MA.
- Mather, Cotton. *Pietas in Patriam: The Life of His Excellency Sir William Phips*. London: Samuel Bridge, 1697.
- McCusker, John J, ed. "Colonial Statistics." In *Historical Statistics of the United States: Earliest Times to the Present, Millennial Edition*, 5 vols, editors Susan B. Carter et al. Cambridge: Cambridge University Press, 2006.
- Mishkin, Frederic S. *The Economics of Money, Banking, and Financial Markets*. 7th ed. Boston: Pearson, 2004.
- Moody, Robert Earle and Simmons, Richard Clive. *The Glorious Revolution in Massachusetts, Selected Documents, 1689-1692*. Boston: The Colonial Society of Massachusetts, 1988.
- Newman, Eric P. *The Early Paper Money of America*. Racine, WI: Whitman Publishing Company, 1967.
- Parker, Geoffrey. *The Army of Flanders and the Spanish Road, 1567-1659: The Logistics of Spanish Victory and Defeat in the Low Countries' Wars*. Cambridge: Cambridge University Press, 1972.

Quinn, David Beers, ed. *The Roanoke Voyages: Documents to illustrate the English voyages to North America under the patent granted to Walter Raleigh in 1584*. 2 vols. London: The Hakluyt Society, 1955.

Reserve Bank of Australia. "Reserve Bank Board."

<http://www.rba.gov.au/about-rba/boards/rba-board.html> , 2018.

Reserve Bank of India. "Reserve Bank of India Act 1934 (As amended up to June 27, 2016)." <https://rbidocs.rbi.org.in/rdocs/Publications/PDFs/RBIA1934170510.pdf> , 2018.

Riksbank. "The executive Board."

<https://www.riksbank.se/en-gb/about-the-riksbank/organisation/the-executive-board/> , 2018.

Roberts, Oliver Ayer. *History of the Military Company of the Massachusetts now called the Ancient and Honorable Artillery Company of Massachusetts, 1637-1888*. 4 vols. Boston: Alfred Mudge & Son, 1895.

Savage, James. *A Genealogical Dictionary of the First Settlers of New England*. 4 vols. Boston: Little, Brown and Company, 1860-62.

Sewall, Samuel. *Diary of Samuel Sewall, 1674-1729*. 3 vols. Boston: John Wilson & Son, 1878.

Seybolt, Robert Francis. *The Town Officials of Colonial Boston, 1634-1775*. Cambridge: Harvard University Press, 1939.

Shurtleff, Nathaniel B., ed. *Records of the Governor and Company of the Massachusetts Bay in New England*. 5 vols. Boston: William White, 1853-54.

Toppan, Robert N. "The Dudley Records." *Proceedings of the Massachusetts Historical Society*, Second Series, 13 (1899a): 226-285.

Toppan, Robert N. "The Andros Records I." *Proceedings of the American Antiquarian Society*, New Series, 13 (1899b): 237-268.

United Kingdom. The National Archives, Public Records Office. Kew, Richmond, Surrey.

Wall, Robert E. *The Membership of the Massachusetts Bay General Court, 1630-1686*. New York: Garland Publishing, Inc., 1990.

Whitmore, William H., and William S. Appleton, ed. *First Report of the Record Commissioners of the City of Boston*. Boston: Rockwell and Churchill, 1876.