Property Rights Under Administrator-Dictators: The Rise and Fall of America's First Bank

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The dictatorial Dominion of New England (1686–1689) saw the rise and fall of the first operational bank scheme in America. Both events resulted from the appointed rulers' attempts to personally profit from real estate, subject to an absolutist constitution imposed by England. The first, *local* ruler led a nominally private land bank. The subsequent, *foreign* ruler invalidated all land titles and thus killed the bank. This unusual case study exemplifies an extension of Mancur Olson's model of stationary and roving bandits, and demonstrates how economic development can be affected in different ways by different types of dictators.

The relation between the form of government and economic development is a key concern for economists. Absolutism can affect the economy for better or worse through many channels. Most importantly, it can discourage *private* investment because of its disrespect of property rights (North and Weingast 1989), but it can encourage *public* investment because the dictator can expropriate the required initial funds and later the returns (Greif 1994). This potential for extreme influences is perhaps behind a new empirical conventional wisdom: dictatorships are more likely than democracies to be either economic miracles or disasters (Sah 1991; Przeworski et al. 2000; Almeida and Ferreira 2002; Haber 2006; Wintrobe 2007; Besley and Kudamatsu 2008). The puzzle is what determines the dictators' economic policies. Why is it that some are good and some are bad?

The leading theoretical idea is Olson's (1993, 2000) model of stationary and roving bandits. The bandits solve different maximization problems due to different time horizons. A bandit who keeps roving between communities that he victimizes has an incentive to take immediately all he can, whereas a bandit who stays in one community and declares himself king has an incentive to maintain the local productive capacity and tax it on a moderate, regular basis for the long run.

Olson's idea has drawn criticism because in reality there have been many long-term predatory dictators. One reason is that some of these were ideological, totalitarian dictators who maximized power rather than income (Wintrobe 1998). Predation could also be collateral damage which is incident to the dictators' never-ending efforts to prevent coups (Haber 2006). For example, to crush opponents, the dictator could confiscate their property, thereby incidentally diminishing private property rights in general. Econometric tests of Olson face additional problems. Comparisons between dictators are difficult because they are located on different points on the spectrum between totalitarianism and democracy. Sovereign dictators choose their locations on this spectrum. They might choose a transition to democracy and leave our sample of dictators. There is an endogeneity problem because the economic situation can be critical in making such decisions (Geddes 2007). The birth of a child can turn a roving bandit into a stationary (dynastic) one.

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We examine Olson's model in a context where these problems are less salient. Instead of looking at *sovereign* dictators we look at their *administrators* who have dictatorial powers. According to Avner Greif, these are important in understanding not only the functioning of states but also their very constitutions (Greif 2008; Gonzalez de Lara, Greif, and Jha 2008). They include regional and colonial governors who are appointed with very wide, nearly absolutist powers. Administrators are useful for us because they have little control over the scope of powers granted to them. Unlike sovereigns, they cannot choose to be totalitarian or democratic, and they have less control over their term in office. They might be fired by the sovereign for reasons unrelated to their performance, but they have the sovereign's overwhelming military backing in case of a local revolt. As a result, administrators are not preoccupied with the coup-preventive activities of sovereign dictators. This gives Olson's model a better chance of yielding testable predictions.

We provide both a detailed historical case study and a related mathematical model. From 1686 to 1689 Massachusetts was the core of the royal Dominion of New England. Under an absolutist constitution (imposed by England) and two consecutive rulers (also imposed by England), a land bank scheme rose—and then fell. This private bank scheme rose while its local leaders also controlled the government. The appointment of a new, foreign head to that government reversed the bank's fortunes. That ruler invalidated all the land titles—the same titles that were supposed to back the bank's paper money. The bank was therefore aborted at an advanced stage. England's sovereign thus created for us, inadvertently, something close to a natural experiment: a key difference between the rulers was their personal circumstances, and this may have led to their drastically different policies and results.

Another problem of econometric studies is that dictators affect the economy in many different ways, with much of the good and bad cancelling out in aggregate measures such as GDP (Przeworski et al. 2000; Aghion, Alesina, and Trebbi 2008). In our story, on the other hand, it was the same financial organization at stake under both rulers.

Our case study has some of the characteristics leading to Olson's basic insight. However, dealing with administrators rather than sovereigns, our circumstances differ from his. The key difference between a good and a bad dictator is not his expected *length* of time in power but the exact nature of the *uncertainty* about that length of time. Our predatory dictator is not one who visits briefly and leaves after pillaging. He is a foreigner appointed by the sovereign, and he knows that his chances of remaining there beyond a certain number of years are very small due to the will of the sovereign. We show that such a forward-looking foreign administrator-dictator will confiscate *immediately* all that he can, even if he expects to serve for a few more years. By contrast, it is an equilibrium behavior for an administrator never to confiscate if his expected remaining number of years in power does not change over time, regardless of whether this expected number is large or small. This is the case of the local administrator who remains (or his descendants remain) in a powerful position without a future deadline. This result is of general applicability as rotation of governors was the main tool used by sovereigns in premodern states to limit governors' independence (Greif 2008).

RISE AND FALL OF THE BANK

The Dominion Established[1]

Beginning in 1675 King Charles II launched a general attack on many English charters, domestic and colonial, in an attempt to centralize control of his empire (Haffenden 1958). In 1684 the charter of the Company of Massachusetts Bay was revoked. After Charles's death in 1685, his brother James II united Massachusetts with neighboring colonies in the Dominion of New England. He appointed a president and council that had absolute local authority on all legislative, executive, and judicial matters (Batchellor 1904, vol. 1, pp. 93–99).

The absence of an elected assembly was highly unusual for an established English colony under royal control. Throughout the colonial period, it generally happened only in young colonies and those recently occupied from foreign powers, such as Jamaica and New York (Labaree 1930, pp. 175–77, 270n, 423). The absence of an assembly in New England surely reflected James's ideas on government that would get him deposed in England (Pincus 2009, chap. 6), although he did allow Bermuda (which also lost its charter in 1684) to retain its assembly (Dunn 1963). It is thus possible that the absence of assembly in the Dominion was also in part because James saw the runaway hardline Puritan colonies almost as occupied enemy territory. Puritans in England deposed and executed the king's father Charles I, and the New England colonies gave refuge to two regicides. Keeping an eye on New England had been a major reason for occupying a neighboring Dutch colony which became James's private colony (New York). After the occupation, James and his officials sometime treated Massachusetts as an enemy (Ritchie 1977, chap. 1 and pp. 112–13).

The commission James II sent to the president was in fact the constitution of the Dominion, as in all English royal colonies (Labaree 1930, chap. I). It stated that the president was to lead the council temporarily, until a governor would arrive. The first role listed in the commission was the administration of justice, explicitly including land cases. Appeal to King-in-Council was limited to cases involving significant sums. The president appointed was a young politician named Joseph Dudley. Dudley was a member of the local elite by birth, a former magistrate at the Massachusetts General Court, and a former agent of the colony in London.

The Bank

London of the early 1680s saw a few failed attempts to create a land bank (Horsefield 1960, chap. 10). The plan was for a bank to accept mortgages on people's lands and give in return a loan in banknotes issued by the bank itself. The Bank of England did not exist yet, and a land bank was supposed to relieve shortage of coin. From contemporaries to Douglass C. North and Barry R. Weingast (1989), it has been the conventional wisdom that large-scale banks could not arise in Stuart England because of the bad reputation of the Stuarts as gross violators of private property rights. Notable and traumatic examples were the confiscation of merchants' deposits at the Tower of London in 1640 and a huge default on government debt in 1672. One of the participants in a failed land bank project was a financier named John Blackwell. In late 1684 he immigrated

[1] Standard references for the Dominion episode are Barnes (1923) and Johnson (1981).

to Boston. His past as Oliver Cromwell's Treasurer-at-War made him popular enough to nearly be elected to the Massachusetts General Court upon arrival.[2]

Seventeenth-century English America was so chronically short of silver that it adopted the Native American seashell money and legalized the use of bullets, fur, tobacco, and grain as media of exchange. Massachusetts opened a mint but lost it in the early 1680s as part of the charter revocation (Goldberg 2009). The shortage of coin hurt all sectors of the economy, including the dominant crop agriculture. Land had to be cleared from wild vegetation and animals, fenced against the colonists' pigs, and then sown with seeds. Purchase of tools, fencing materials, seeds, animals (for draft or food), and sometimes hired labor, required credit from merchants (practically but informally backed by future crops), or liquidity. Lack of liquidity in one year could have implied that the land was not exploited according to its potential and therefore lower income was derived from the land when crops ripened. Liquidity was important for expansion and other long-term investments in agricultural land. Unmaintained land was quickly taken back by nature (Rutman 1967, especially pp. 20–21; Konig 1979, chap. 3).

Blackwell probably thought that a land bank could be more successful in America than in England. America had less coin. It had much more land, which had little initial value but could be improved and was freely traded. America also enjoyed a huge distance from the predatory Stuarts. The bank prospectus explicitly referred to the farmer's liquidity problem (Davis 1910, vol. I, pp. 121–46). It offered a loan based on the farmer's mortgaged land. The bank differed from preexisting ad hoc market mortgages in being an institutionalized arrangement of long-run loans, and in that the bank issued its own money.

The bank scheme was launched right after Dudley became president in May 1686. In June the council formed a grand and standing committee of merchants, chaired by Blackwell, to discuss ways to end a recession that was blamed on England's recent closure of the mint and new enforcement of the mercantile Navigation Acts. In July Blackwell proposed his bank scheme to the council, which referred it to Blackwell's own committee. The committee approved. In September the council approved the committee's report and promised to act in favor of the establishment of the bank. Most remarkably, the council made the prospective banknotes legal tender for all debts and taxes. It is very unusual in monetary history to give such status—then reserved to royally minted coins of precious metal—to private banknotes. The Bank of England was approved by Parliament in 1694 only after its promoters gave up their demand that the banknotes would be legal tender (Horsefield 1960, pp. 126, 146).

The bank's astonishing progress emanated from the personal involvement of the government leaders in the bank (Lewis 1967). Its directors were Blackwell, President Dudley, Deputy President William Stoughton, and Councilor Wait Winthrop. Stoughton was Dudley's closest friend and business partner and was appointed deputy by Dudley himself. Winthrop was a leading councilor. Two other bank officers, former colony treasurer James Russell, and the richest man in Boston, Councilor Samuel Shrimpton, were senior members in Blackwell's committee.

[2] On Blackwell and his bank in Massachusetts, see Goldberg (2011).

The symbiotic relations between the absolutist government, the trade committee, and the private bank were a "dominant coalition" (North, Wallis, and Weingast 2009). Such relations between political and economic elites are the rule in "limited access orders"—dictatorships and immature democracies. Either the political leaders are personally involved in large business ventures and provide benefits that no truly private business can obtain, or they sabotage the projects entirely. Seventeenth-century England and its colonies were such limited access orders.

A New Governor

At the same time in England, a governor was appointed for the Dominion. Sir Edmund Andros was a soldier and a lifelong servant of the Stuarts, who had been Governor of New York in the 1670s. His commission was longer than Dudley's but the important differences had nothing to do with land (Batchellor 1904, vol. 1, pp. 146–55). The Dominion was still to be ruled by the same absolutist council. Most of the text on administration of justice was copied verbatim from Dudley's commission. Andros's commission gave him more powers, reflecting its more permanent nature, such as imposing new taxes. Two other differences could have had an effect on land (but did not). First, the authority to make "acts and orders" was replaced by an authority to make "laws, statutes, and ordinances" which had to be sent to England for approval. Second, Andros was "to agree with" the colonists, with the "advice and consent" of the council, that lands "in our power to dispose of" be granted with quitrents. Except for the lack of an assembly, the commission was similar to those given to other royal governors. Andros's powers were based on the king's prerogative in England and on the idea that he personally represented the king in the colony (Labaree 1930, chaps. I, III). He also received private instructions that authorized him to "dispose of" land "for which our royal confirmation may be wanting" (Batchellor 1904, vol. 1, pp. 155–67). Dudley became Andros's deputy.

In December 1686 Andros took office. In May 1687 he made his friend John West land registrar and began attacking land titles.[3] He said that all land titles were defective and invalid for the following reasons: the lands reverted to the Crown upon the charter's revocation, Natives were not eligible to sell land, towns were not incorporated and thus could not grant lands, and the grants were not sealed. Presumed land owners had to petition him for a survey of the land and confirmation of the title. This land policy was part of a general disrespect of property rights, which extended to the common rights of towns (Barnes 1923; Martin 1991, chap. 9). Andros also let Anglicans into a Puritan church and the Puritan college (Harvard).

Andros was able to do all that to English subjects because they were, in some sense, occupied by England. It was normal for colonies to surrender peacefully in return for a guarantee of preexisting property rights. Examples include royalist Virginia in 1651 (Hening 1823, vol. I, p. 364) and New Amsterdam in 1664 (Ritchie 1977, p. 22). In contrast, Massachusetts did not surrender its charter peacefully but went to battle in court. It thus failed to obtain a confirmation of property rights. Its situation was not much better than Spanish Jamaica that was

[3] On the critical importance of a friendly administration to policy implementation, see Greif (2008).

occupied on the battlefield (1655) and lost all property rights.[4] The deviations of Massachusetts land law from English land law had no excuse (as the Dutch of New Amsterdam obviously had), no ex-post blanket confirmation, and—under Andros—no forgiveness. Andros's lack of good faith is proven by the fact that he unnecessarily invalidated all titles, even though most of them had gone undisputed for decades. While they were perfectly legal according to local land law, as far as English land law was concerned most colonists had only de facto possession of lands. His behavior was consistent with the absence of assembly that was typical of occupied foreign colonies.

Andros was slow in implementing his wholesale repudiation of land titles, probably fearing a revolution or recall from the king (Barnes 1923, p. 188; Toppan and Goodrick 1909, vol. VI, p. 206). He started giving land to his cronies, leading to numerous legal disputes. He made no law other than prohibiting *future* purchases from Natives. Legislating about past titles might have been seen as unjust retroactive action, and would have had to be sent to England for approval. It was safer to keep everything in the judicial arena. Although Dudley was chief justice, the attorney general could appeal his decisions to the council which was under Andros's control.

The bank partners thus had time to react. They understood that the appointments of Andros and West were a "shock to the dominant coalition" in the terminology of North, Wallis, and Weingast. There were two ways to deal with it: beat them or join them. Elisha Hutchinson, a bank partner, land developer, and merchant, went to lobby in London against Andros, trying to get him recalled or have his policy changed. Councilor Richard Wharton, the biggest Massachusetts land developer, tried the same. Dudley, however, apparently thought the shock could be handled by making Andros a partner in the bank. Nothing came out of this attempt (Davis 1907).

Andros knew the power of merchants' lobbying in London. That is what got him recalled from New York (Ritchie 1977, chap. 5) and got the Massachusetts charter revoked a few years earlier. He had to wait until he got a hint of the king's opinion. In July 1688 he received a new commission which did not rebuke his land policy and even gave him New York and New Jersey (Batchellor 1904, vol. 1, pp. 226–34). Andros saw this as an implicit approval. One week later, the emboldened Andros launched an unprecedented legal attack, prosecuting some of the colony's elite for supposedly invading the king's land. The attack was prepared by the new attorney general James Graham, another friend of Andros. Graham threatened that all the rich would be targeted for all their lands. Four days after the prosecution started, as a record number of colonists rushed to petition for confirmation of their land titles, Blackwell announced that the bank scheme was aborted because the partners wished to withdraw (Goldberg 2011). Four months later, the Glorious Revolution in England deposed James II. In April 1689 the colonists revolted and arrested Andros, Dudley, West, Graham, and others.

It is important to note that what Andros did regarding land was also feasible for Dudley to do. The differences in their commissions were irrelevant since Andros used the judicial arena (rather than the legislative arena) and there they

[4] Articles of surrender were agreed upon in Jamaica only after physical occupation, and ratified the loss of property rights (Andrews 1934, vol. III, p. 23).

had the same powers. This fact brings forth a critical puzzle: why did two dictators under virtually the same absolutist constitution treat the same financial venture in so drastically different ways within just two years? One joined, headed, and promoted the bank plan, while the other did not join and destroyed the validity of the land titles—the asset upon which the bank was based. The next section will point a possible source for such starkly different policies.

DUDLEY AND ANDROS: A CLOSER LOOK

Olson (1993, 2000) used a parable of bandits to discuss the foundations of government. There are two types of bandits. Some are *roving* bandits. They travel from one place to another, plunder, and move on to the next victim. Other bandits realize that they might obtain more resources by staying in one place, protecting it from other bandits, allowing the inhabitants to produce and prosper, and making a living by taxing them (that is, robbing them moderately but on a regular basis). These are the *stationary* bandits, who are known as dictators. Olson thus explained why dictators, who can take all their subjects' property, are actually not always so destructive. They might promote economic growth for egoistic reasons. Furthermore, bandits who are young and healthy or have children see a long time horizon and are thus more likely to be stationary bandits than old, childless bandits. The most personal circumstances of the dictator can be important for economic development.

At first sight, Olson's ideas seem to be flatly contradicted by the Dominion story. Dudley, who was president for only a few months, promoted the bank, while Andros, who was supposed to be governor for a few years, killed it. However, a closer look reveals that in terms of the generated incentives, Dudley was similar to the stationary bandit while Andros was similar to the roving bandit. Dudley's time in power was "open ended" because as the leading colonist he was expected to remain in a leading position there all his life. For Andros, time in power was "closed ended," since as a foreign governor he was not expected to stay for more than a few years.

Dudley the Local

Joseph Dudley was born in Massachusetts in 1647.[5] His father Thomas was the second most important founder, serving four times as governor and founding Cambridge. Due to his ancestry, Joseph was elected at age 27 to the General Court. In 1681 he was sent to London to defend the Massachusetts charter from revocation. It was a hopeless battle, as mentioned above. Due to their religious mission in America, most Massachusetts leaders preferred political martyrdom to surrender. Dudley and another agent were instructed not to agree to any change in the charter.

Dudley, however, was aware of recent events in New Hampshire, which was a de facto Massachusetts county. In 1679 Dudley had been appointed by the Massachusetts General Court as a judge in New Hampshire. Soon he lost this job as the king took over New Hampshire and appointed there a president, a council, and an assembly (Batchellor 1904, vol. 1, pp. 1–8). In the British Isles, "president" was a provincial administrator, as in Wales and Munster, somewhat lower than a governor. The commission to the president recognized the

[5] Kimball (1911) is a biography.

colonists' rights to the land due to their long possession and improvements. The president and councilors were of the local elite and had been chosen by the colonists to petition England *against* independence from Massachusetts (Belknap 1831, vol. 1, p. 86). The king probably tried to buy their loyalty with honors and salaries. With these elites on board, nobody else could oppose the Crown. Without them he might have to send over troops (Stackpole 1916, vol. 1, p. 105). The president was John Cutt, the richest merchant in Portsmouth and a former deputy at the Massachusetts General Court. He was appointed for one year at least and then until further notice.

The form of royal government in New Hampshire was a valuable lesson for Dudley. It was the first time since 1624 that the king took over an English American colony governed by a corporation. It was the only precedent for predicting what would happen to Massachusetts if it were to lose its charter. Dudley realized that he was in Cutt's shoes: a distinguished colonist and member of the Massachusetts General Court who represented his community in favor of that Court. Dudley's mission was a golden opportunity to make himself personally known to the king. Instead of Cutt's riches, he had ancestral credentials. He was in a perfect position to become President of Massachusetts.

Dudley indeed switched sides. In England, he collaborated with the royal court in discussions on the future form of government. He supposedly showed the private instructions given to him by the Massachusetts General Court—an unusual move designed to signal a personal willingness to compromise. One royal official wrote that Dudley "has his fortune to make in the world, and if his Majesty, upon alteration of the government, make him captain of the castle of Boston and the forts in the colony, his Majesty will gain a popular man."

Dudley returned home to hatred and verbal abuse from fellow colonists. In 1684 he was not reelected to the General Court, which was an unusual event for any magistrate, and especially for someone of such ancestry. He asked the king that the new constitution would arrive with "assurance of his people's properties." This reflected his concerns as a major land developer. Most of the elite participated in a rush on the large tracts of land cleansed of Natives during King Philip's War (1675/76). Together with partners, Dudley owned three towns and kept buying land with his friend Stoughton, the banker Blackwell, and others. In one transaction, they bought a million acres from the remnants of a tribe. Overall, Dudley alone claimed at least 8731 acres (Lewis 1967).

In the meanwhile, New Hampshire's disputes with its English private proprietor led to the replacement of the local president with an English lieutenant governor. England learned there accidentally that an upgrade of royal authority can be eased by first appointing locals as president and council. It was decided to do the same in Massachusetts (Sainsbury and Fortescue 1896, #1413). Dudley was therefore explicitly appointed only until the arrival of a governor. His continued land purchases prove his confidence in the maintenance of property rights under the new governor. Given such confidence, there was no reason to reject Blackwell's invitation to the bank leadership. Dudley's council approved the bank in September 1686, taking into account a rumor that Andros would arrive in October (Sewall 1878, vol. I, p. 148). Indeed, Avner Greif predicts that "administrators who are also economic agents are more likely to implement choices leading to economic sectors that complement" their own economic interests (Greif 2008, pp. 47, 48). As a major land developer, it was natural for

Dudley to promote the complementing land bank. He must have known that appointed councilors usually served for life in the English Empire (Labaree 1930, p. 135). As England's most favorite colonist, at the age of 39 he expected to remain in some leading position for many years to come.

Dudley indeed remained in a leading position as Andros's deputy. Trying to lead the colonists by example, he successfully petitioned Andros for confirmation of his land titles. He was appointed chief justice and casually violated the most sacred rights of Englishmen. He refused Habeas Corpus and punished colonists who refused to pay taxes that were not levied by an assembly. As a result, he was the only local man to be kept under arrest after the revolution. His business partners, relatives, and friends on the revolutionary government sent him to house arrest twice. In both times, he was quickly returned to jail by angry armed mobs, an unprecedented event in orderly Massachusetts.

To complete the picture in terms of Olson's framework, it should be noted that Dudley could not have expected to be a roving bandit. He could expect to be a leader only in Massachusetts, because there was no precedent for the English appointment of a native of one colony to the government of another colony.[6] The other bank leaders also descended from founding fathers of Massachusetts: William Stoughton was son of founder Israel Stoughton and Wait Winthrop was grandson of legendary Governor John Winthrop. They too could expect to stay in a social, economic, and political leadership position in the Dominion, and only there, for many years.

Andros the Foreigner

Edmund Andros was born in the island of Guernsey.[7] He served the royal family from an early age, in exile during the Interregnum and later in the Caribbeans. In 1674 he became Governor of New York—James Stuart's private colony. His banditry career started there. He faced many accusations of illegally profiting from his position, mostly by his control of the all-important beaver trade (Ritchie 1977, chap. 5). Land titles were relatively secured from him. Dutch titles had been confirmed, and new titles had been granted, by James's previous governors. He found a legal excuse to seize only land which was not used by its owners, and the complaints which reached England proved that the legality of this was questionable. He also got into a fight with his neighbors, the New Jersey proprietors, who were James's friends (Andrews 1934, vol. III, p. 158). Eventually he was recalled by James in 1680. He was exonerated but was not returned to office. In 1686 James, now King James II, appointed him again to an American office.

In 1687, soon after taking office, Andros started bringing cronies from New York. The abovementioned John West and James Graham had first arrived to New York with Andros in 1680. West had been government secretary there while Graham had been attorney general. Two men joined the Dominion in 1688, demoting Dudley further: Francis Nicholson became lieutenant governor (based

6 Dudley himself would create the precedent in the 1690s because of his unprecedented alignment with England against the people of his native colony. Even this might not have happened if not for the Glorious Revolution, which severely shocked the administration throughout the empire (Pincus 2009).

7 A biography is in Whitmore (1868, vol. I, chap. 1).

in New York) and New Yorker John Palmer became chief justice (Whitmore 1868, vol. I, p. xx; Ritchie 1977, pp. 180–81, 198). The Puritans bitterly complained about these "foreigners," meaning Anglicans with no property in Massachusetts (Sewall 1878, passim; Whitmore 1868, passim). Andros's first attorney general George Farewell and High Sheriff James Sherlock were recent arrivals as well (Savage 1860–62, vol. II, p. 147, vol. IV, p. 78).

Andros and this group probably did not expect to stay for long. The average tenure of a Stuart-appointed, post-Restoration, colonial governor was five years and the median was four and a half (see the Appendix). The probability of staying more than six years in office was only 15 percent.[8] Specifically, Andros himself was recalled from New York and saw frequent changes in the Caribbeans. This group could, of course, settle in Massachusetts for good, but this would not have turned them into Olson's stationary bandits. Within a few years, the king would have ended Andros's rule and he would have had the possibility of staying there only as an ordinary subject.

Geographical rotation of administrators was standard in premodern states across the world.[9] In France, it was mandatory. It was the main tool that kings used to prevent administrators from cultivating local loyalty and gaining independence. It was consistent with the practice of appointing foreign administrators. Empires which employed unrotated locals paid dearly: the Mongols lost Russia and the Ottomans lost control of tax collection. Rotation, just like the appointment of eunuchs and Catholic clergy, also prevented administrators from founding their own dynasties. The early English Empire had some rare long tenures (see the Appendix), but it seemed to have been unofficially recognized that rotation was important, since governors were recalled quite casually. If enough complaints arose against a governor, usually about corruption, and he had already been there for a few years, he was recalled to answer the allegations and did not return even if he cleared his name. Andros went through that himself in New York.

It is now clear why Dudley failed in getting Andros on board the bank. Such realignment of the coalition's rents would not have helped someone with as short of a time horizon as Andros. After his removal elsewhere, he would have been in the position of an absentee partner, with no ability to influence bank policy in real time and only a questionable ability to collect his share in the profits. Absentee proprietors, including the king, had a hard time collecting their rents in early America (Bond 1919). Dominion courts could not be expected to be too friendly to their former dictator. Moreover, the bank was supposed to handle all payments in its own paper money rather than with scarce coin, and the plan was to actively discourage repayment of its loans in coin (Goldberg 2011, p. 214). Sitting in England or another colony, Andros would have had no use for the bank's notes.

This is why the realignment of power in the dominant coalition had to be more drastic—undermining the land titles of older members of the coalition, and, probably inadvertently, undermining the bank as well. Andros's second

[8] Excluding the exceptional case of Berkeley in Virginia, the average and median drop by half a year, and the probability of staying more than six years drops to 10 percent. Labaree (1930, p. 126) finds the same average of five years for the entire colonial period.

[9] The facts in this paragraph about non-English practices are from Greif (2008).

commission of 1688 implied royal approval of his realignment. Together with the joining of Graham, Nicholson, and Palmer, it shocked the dominant coalition more seriously and resulted in the bank's immediate collapse. Moreover, as a temporary administrator bent on collecting maximum short-term revenue at the expense of growth, Andros actually had an incentive to prevent "private experimentations that might reveal growth-enhancing choices" that could be made by his government (Greif 2008, p. 46).

To summarize, the situation in Massachusetts was more complicated than Olson's model of stationary and roving bandits. As an appointed dictator, Andros was expected to be in Massachusetts not for a one-day pillage but also no more than a few years; his horizon was a "closed" one. In contrast, Dudley had an "open" horizon: no effective deadline. Although as president he was very temporary, as the leading colonist he expected to maintain an ability to benefit from the colonists' lands indefinitely through a long-lived bank. One key Olsonian assumption remains intact: both dictators were egoistic. If Dudley had any patriotism, it was recognized by very few contemporaries. He was singled out as somewhat of a traitor both before and after his brief tenure as Massachusetts' first dictator. His bank and council colleagues Stoughton and Winthrop remained popular.

We now turn to formalizing the different circumstances and choices of Dudley and Andros in a model. The goal of the model is to impose some discipline on the historical analysis and to verify with the objective tools of mathematics the theoretical arguments made above. Formalizing this example also provides value for understanding other episodes.[10] The model does not intend to capture all the important details, subtleties, and complications of the case study, and indeed it could not. It only serves to examine and highlight one mechanism which we think is of paramount importance in understanding the incentives of Dudley and Andros. These two men were clearly not twins separated at birth, and they differed from each other in many ways. However, their complete identification with James's policies and style of government indicates that many of these personal differences were of secondary importance in explaining their different land policies. Their future prospects in the Dominion, however, were inherently and fundamentally different, and therefore could have been the main force at work.

A MODEL

Arye Hillman (2004) showed that Olson's bandits can be formalized as a simple game, where the roving bandit plays a *one-shot* game with the population while the stationary bandit plays an infinitely *repeated* game. A standard folk theorem argument then allows both bandit and population to be better off in the repeated game than in the one-shot game.

Our case differs from Hillman's model in three ways. First, in that model the dictator can confiscate in any period only the current fruits of the land, whereas in our story the land itself could be confiscated. Moreover, confiscation can happen only once. The dictator cannot confiscate again land that he himself had confirmed before. The super-dictator in England would not allow such blunt robbery. This means that the game might not be exactly the same in every period.

[10] For a leading example of this methodology, see Greif (2006).

Second, in Hillman's model the dictator either leaves the population alone or he confiscates. In the Dominion there was a better option, one of collaboration that increased the surplus from the land (the land bank). Finally, the time horizons are more complicated than one period vs. infinitely many periods.

Assume then an economy consisting of a ruler and a land owner, who repeatedly interact over several or many periods. The two agents' payoffs in each period are determined by their actions in that period and in the previous ones, as detailed below. The total payoffs are determined by discounting, with possibly different discount factors for the owner and ruler, $0 < \delta_O < 1$ and $0 < \delta_R < 1$, respectively.

In each period, the ruler can either help the owner to invest in his land by offering him a loan (L) or confiscate it (R). If he offers a loan, the owner can accept the offer (T) and invest in the land, or reject it (B) and not invest. We normalize the agents' payoffs by setting them both to zero if there is no confiscation and no investment. For the owner, investment carries a cost of c in the current period, which reflects the part of his own resources in the investment, and a gain of b in the next period (only), which expresses the fruits of the investment net of the principal and interest paid to the lender. The owner's discounted gain from the investment is

$$\delta_O b - c > 0. \tag{1}$$

For the ruler, extending the loan yields a positive discounted profit of d. Confiscation terminates the interaction between the two agents and results in a (discounted) loss of a to the owner and a gain of e to the ruler. We assume that the value of the land is very large compared to the other payoffs mentioned, and in particular,

$$e > \frac{b}{c}(b + d). \tag{2}$$

An additional result of confiscation, which only applies if there was an investment in the previous period, is a loss and gain of b for the owner and ruler, respectively, which reflects the fact that it is the latter rather than the former who reaps the fruits of the investment.[11] Thus, in each period, the payoff matrix is

$$\begin{array}{cc} & \begin{array}{cc} L & R \end{array} \\ \begin{array}{c} T \\ B \end{array} & \begin{pmatrix} \delta_O b - c, d & -a, e \\ 0,0 & -a, e \end{pmatrix} \end{array}.$$

if the owner did not choose T in the previous period (which is necessarily the case in the first period) and

$$\begin{array}{cc} & \begin{array}{cc} L & R \end{array} \\ \begin{array}{c} T \\ B \end{array} & \begin{pmatrix} \delta_O b - c, d & -a - b, e + b \\ 0,0 & -a - b, e + b \end{pmatrix} \end{array}.$$

if he did choose T. This assumes that the ruler did not choose R in any earlier period; otherwise, the payoffs are all zero.

[11] The reason we choose to view the gain b as part of the owner's payoff in the previous period (and then subtract it if needed) is that this allows us to terminate the game when the ruler leaves (see below) rather than one period later. A similar comment applies to the ruler's profit from extending the loan.

The last component in the description of the game is the specification of its duration, which is the number of periods in the ruler's term. This number may or may not be known in advance. However, it turns out that the important factor in terms of the effect on the equilibrium outcome is not the *uncertainty* about the number of periods per se but whether or not there is an effective *bound* to that number. Correspondingly, we consider below two possibilities, dubbed open and closed horizon.

Open Horizon

An open horizon means that the passing periods do not make the end of the ruler's term any closer. In other words, the probability $0 < p < 1$ of at least one more period is the same in all periods, so that the number of periods has a geometric distribution with mean $1/(1-p)$. This entails that investing in all periods is an equilibrium strategy for the owner. A corresponding equilibrium strategy for the ruler is to refrain from confiscating the land as long as the owner invests in it. The equilibrium payoffs are equivalent to constant payoffs of $\delta_O b - c$ to the owner and d for the ruler. Our assumption of positive net gain from investment implies that any unilateral change of strategy by the owner can only harm him. For the ruler, an effective unilateral change of strategy, which means that he confiscates the land at some point, is harmful if the gain from confiscation is lower than the expected discounted payoff from receiving d in each remaining period, that is,

$$e + b < \frac{1}{1 - p\delta_R} d.$$

This inequality holds if the ruler is expected to remain in office long enough (p close to 1) and he is sufficiently patient (δ_R close to 1). Thus, in this case, the outcome that the owner always invests in his land and the ruler never confiscates it but rather facilitates the owner's investment is an equilibrium one.

Closed Horizon

A closed horizon means that the number of periods, which may or may not be known in advance, is bound not to exceed some commonly known limit N. As we show below, this limitation has a dramatic effect on the equilibrium outcome. In any equilibrium, even in mixed strategies, the ruler confiscates the land in the first period.

If the ruler is still in office in period N, Assumptions (1) and (2) imply that his strategy must be to confiscate the land in that period with probability 1. In period $N - 1$, it may be optimal for the ruler not to confiscate only if he is sufficiently sure that the owner will invest in that period and he himself will still be in office in the next period, so that he can confiscate the land then. However, the owner may indeed invest only if he is sufficiently sure that the ruler will *not* get a chance to confiscate in the next period, an apparent contradiction. Thus, it seems that the ruler must confiscate for sure also in period $N - 1$.

To formalize and extend the above argument, consider any equilibrium, and suppose that there is some period such that there is a nonzero probability that the game will reach that period and the ruler will not confiscate the land then. Let $1 \leq \overline{N} < N$ be the *last* such period, and $\bar{p}$ the probability that the game will continue at least one more period, in which case the ruler will confiscate for sure in period $\overline{N}+1$. His choice not to do so in period $\overline{N}$, which by the equilibrium assumption must be optimal, indicates that there is a nonzero probability that the owner will invest in period $\overline{N}$ and

$$e \leq d + \bar{p}\delta_R(e+b).$$

However, for the owner, investment in period $\overline{N}$ is optimal only if

$$(1-\bar{p})\delta_O b \geq c.$$

It is not difficult to see that this inequality and the previous one together contradict equation (2). Therefore, there cannot in fact be a period in which the ruler refrains from confiscating the land, and in particular this cannot be the case for the first period.

Confiscating the land right away gives the ruler a lower payoff than in the equilibrium in the open-horizon case (where he *could* do the same but chose not to), and the same is obviously true for the owner. Thus, both agents fare worse in the closed-horizon case. Significantly, this conclusion has nothing to do with the value of the limit N on the number of periods or the possibility that the game will terminate before the limit is reached. In particular, N can be arbitrarily greater than the expected number of periods $1/(1-p)$ in the open-horizon case.

Discussion

The preceding narrative suggests that Dudley played the open-horizon game. As England's most favorite colonist, even five or ten years ahead in the future, the probability of him losing his position of influence in the Massachusetts government and the bank was the same as when the Dominion was created. Looking farther ahead to the more distant future, his children were expected to inherit not only his wealth but also the leadership position that he inherited from his own father and upgraded. Andros, on the other hand, knew that after six or seven years in office his days would be almost certainly numbered. At that point in time, the arrival of a new governor from England with a letter recalling him immediately would have been a most probable event in the near future. The colonists were also aware of this fact. Therefore, Andros and the colonists played the closed-horizon game. However, they did not get to play this game immediately. During Andros's first commission (December 1686–July 1688), there was a more complicated game, involving the king as a third player. We do not model that game. The second commission signaled to Andros that he could do as he pleased with the land titles. The commission's arrival in July 1688 put Andros in the game described above for the first time. As the model predicts, he wasted no time. It took him just one week to launch the legal attack on land titles which killed the bank.

The benefit for Andros and company from his land policy was twofold. First, colonists who applied to have their lands surveyed and their titles confirmed paid very high fees (Whitmore 1868, pp. 92, 205). Colonists claimed that a huge fee of more than £50 was required to confirm the title of a plot worth less than £200 (Whitmore 1868, p. 98; 1874, pp. 124, 197). Some councilors, including the bankers Stoughton and Winthrop, complained later that these fees "would have been to most men insupportable" and they mentioned a calculation "that all the money in the country would not suffice to patent the lands therein contained" (Whitmore 1868, p. 143). Ironically, with a closed mint, the best chance of providing the needed medium of payment was the land bank that was undermined by this very policy.

There is independent corroborative evidence that already in New York Andros had grossly inflated administrative costs to enrich his cronies.[12] As was standard in those days, the fees went to the pockets of Andros and his cronies and not to the colony's treasury. This was perfectly legal. Many administrators in England and the colonies were expected to earn much of their living from fees rather than from a fixed salary (Labaree 1930, chap. II, pp. 112, 166). The fees, however, were expected to be reasonable.

A second benefit was that confiscated land was granted to cronies (Whitmore 1868–1874, passim). The cronies could sell or lease the land, with its new perfectly legal title, right back to the colonists. Either way, land was merely an indirect tool for grabbing money from the colonists.[13] Doing it directly might have been disapproved by London. Land was an instrument to create wealth for both Dudley (the banker) and Andros (the robber). Their different time horizons implied different methods. Incidentally, one method could have been beneficial for growth while the other was surely harmful for growth.[14]

EPILOGUE

Given that the bank-busting Andros was deposed in 1689, it remains to explain why the bank was not relaunched. Blackwell had already left Massachusetts in late 1688 when he became Governor of Pennsylvania. He resigned and returned to Boston in May 1690 in the middle of a war with Canada and Natives. This was no time to relaunch the land bank, especially since Andros's ruling on land had not been overruled yet by the new king and queen. Massachusetts' chief lobbyist, Harvard President Increase Mather, was working very hard in London to achieve that and would succeed only in late 1691. In the meanwhile, in a time of great financial need, Massachusetts was forced in December 1690 to invent a new currency: paper money which was unbacked by coin, land, or goods, but was receivable in taxes. Blackwell helped by publicly supporting that currency, and perhaps in its very invention (Goldberg 2009). From that point, the land bank had no chance of winning political approval since the banknotes would have competed with the government's notes. Blackwell did not care as he returned to England in early 1691. Others attempted in vain to revive the bank plan after warfare finally ended in 1714.

Right after attacking land titles in July 1688, Andros left to take control of his new territories of New York and New Jersey. In New York he could not invalidate land titles for the same reason he could not do so in the 1670s (see above). The

12 In 1676 a man who slandered New York City had to pay court costs of £61 (Ritchie 1977, p. 117).

13 Silver coin was not in adequate quantities for daily trade, hence the need for the bank, but there were some coins in the colony for Andros and the cronies to demand in unilateral payments. The Dominion's treasurer accounts show many tax payments in coin (Massachusetts Historical Society, Jeffries Family Papers, vol. I, #28–32). Given the size of the fees, Andros and company could have also accepted bills of exchange on London—something that could not be used for daily trade in the colony. They also had the option of accepting payment in agricultural produce—the main form of money in the Dominion—and selling it in the West Indies for coin or bills of exchange on London.

14 Aside from the bank, everyone's credit was based on their land titles (Goldberg 2011).

New Jersey proprietors seemed to have received the standard confirmation of land titles when they surrendered their charter that year (Andrews 1934, vol. III, p. 159). In any case, Andros would have been wise not to get into a fight with them again (see above). Andros then left to chase Natives in the northeastern forests all winter, and when he returned to Boston he was deposed.

While ex-post evidence should be treated cautiously, it is worth noting that even the severe shocks of the Glorious Revolution in England and the Dominion did not greatly change the affiliations of Andros and Dudley. They were exonerated in London since no colonist dared signing the charges against them. William III generally continued the employment of experienced administrators, regardless of their complicity in James's absolutism, and even though his supporters were furious about it (Pincus 2009, pp. 297–300). Andros thus became Governor of Virginia in 1692. There he could not behave as rapaciously as he had in the Dominion as he faced a set of checks and balances which was completely new to him. His new boss was far less autocratic, England's constitution changed dramatically, for the first time in his gubernatorial career he faced an assembly, and he could not invalidate property rights that had been granted or confirmed by English royal governors since 1624. Under such different circumstances, his response to finding the land records in a deplorable physical condition was to transcribe them anew without altering any property rights (Beverly 1855, p. 82). In Virginia too he was recalled, not surprisingly, after six years. This time the reason was a quarrel with the Anglican Church.

Dudley could not be immediately returned to office where he had been recently imprisoned. He spent time in leading positions in New York and the Isle of Wight, while his former deputy Stoughton was acting governor of Massachusetts half of that time. In 1702 Dudley was appointed Governor of Massachusetts and served 13 years. Overall, during 19 of the 26 years following the Revolution, either Dudley or Stoughton ruled Massachusetts by English appointment. Dudley's children held leadership positions many years after that. The last bank director, Wait Winthrop, remained a councilor all his life and was chief justice.

CONCLUSION

The short-lived Dominion of New England saw two rulers under an absolutist constitution. Both were loyal servants of the Stuarts, but their different personal circumstances led to opposite policies on property and thus opposite outcomes regarding financial development. Dudley was a local man. He was already one of the main land developers. All his assets were local, and his future plans as of 1686 revolved around New England. The bank was an opportunity for him to turn that land into cash, especially when he and his partners also controlled the absolutist government. In contrast, Andros and company had no land holdings in the Dominion and no long-run future there. For them, the irregularities of land titles were an opportunity to grab others' lands or at least get very high fees for confirming the ownership of lands. A bank based on existing titles would have been less useful to Andros.

Andros's disregard of property rights is similar to the abovementioned behavior of the Stuarts. War finance was the reason that the kings confiscated property in 1640 and 1672. A king who fears losing his throne in war thinks temporarily and probabilistically as a roving bandit, and he acts accordingly

(Olson 1993). Behavior such as Andros's has been recently recognized by many economists as the main obstacle to development. It has been labeled "Nietzschean" behavior (Hillman 2004), "limited-access order," (North, Wallis, and Weingast 2009), and "extractive political institutions" (Acemoglu and Robinson 2012).

The story of the land bank is an unusual case study because it features opposite outcomes for the same financial venture under an exogenous absolutist constitution. Moreover, the rulers' circumstances as local and foreign (similar to stationary and roving bandits), were entirely beyond their control. We argue that these different exogenous circumstances were a key reason, even if not the only reason, for the difference between the rulers regarding their policy towards the bank and the land.

Our extension of Olson's model to non-sovereign dictators is important in general because Olson's insights are most likely to hold in this context as opposed to the case of sovereign dictators. Ronald Wintrobe's critique does not apply because administrators whose powers are limited from above cannot be power-maximizers. Stephen Haber's concern of long-term dictators terrorizing the opposition to prevent coups also does not apply because administrators enjoy their sovereign's military backing. Indeed, Dudley certainly did not terrorize anyone as he took office. He had the backing of England, which was 100 times more populous than Massachusetts and would have crushed any rebellion. No colonist contemplated a revolution against Dudley.

History is full of governors who controlled colonies and provinces on behalf of sovereigns and had near absolutist powers. Any Imperial Sovereign had many such administrators who were rotated. They must have differed from one another in their personal circumstances and their authority. Their experiences are a fertile ground for comparative research on the impact of political institutions.

Another implication of our model is that there was a significant cost to the popular custom of rotating governors. The benefits mentioned earlier were large indeed. No royal governor rebelled against the Crown and declared independence of his colony. However, there was a fundamental trade-off between the short run and the long run. Sovereigns using this method assured their control in the short run, but if each temporary governor behaved as a roving bandit, then this had negative long-run implications for both economic growth and the population's loyalty towards the appointing sovereigns. The English Empire often had checks and balances, such as a local assembly, to prevent excessive banditry. The Dominion experiment, however, was not the only case of abuse by a governor. In his study of all royal governors in the first British Empire, Leonard Woods Labaree mentions Lord Cornbury "whose peculations from the treasury of New York led the colonists to distrust the governors of the province for the next half century and thereby profoundly affected New York's political history" (Labaree 1930, p. 42). Such may have been the seeds of revolutions in many empires.

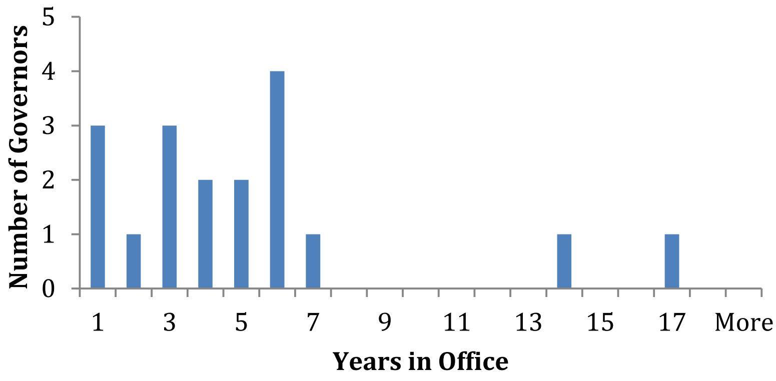

Figure 1: Tenure of Stuart-Appointed Colonial Governors, 1660–1686

Appendix: Tenure of Stuart-Appointed Colonial Governors, 1660–1686

We assume that when Andros and the colonists formed expectations about Andros's length of service in the Dominion, they used all the available relevant information. Any appointments before and during the Interregnum probably did not seem relevant after the Restoration, so we begin in 1660. We end with Andros's appointment in June 1686.

The appointments considered include those on the continent as well as the Caribbean islands. These islands, together with Bermuda, were considered by contemporaries to be part of the same western English Empire. There were strong trade and migration relations between islands and continent. Modern distinctions based on which colonies did or did not become part of the United States of America would be anachronistic.

Appointments include those in Barbados and New York that belonged to Charles II and James II as proprietors rather than kings. Not included are governors who were temporarily continued by the king from a previous regime (the Protectorate or a corporate charter), as in Barbados and Bermuda. Also not included are deputy governors and lieutenant governors who automatically became caretakers upon the death or recall of a governor. New Hampshire's lieutenant governor Edward Cranfield is included because he was a proper governor in every way but his title (Labaree 1930, p. 19 and fn. 35). New Hampshire's president Cutt is also included because his authority was very close to that of a governor.

Overall, we are left with 20 men properly appointed by Charles II and James II in the English American colonies. The following list displays the last name of each governor and his number of years in office, from receiving his commission to recall or death. In Virginia (Campbell 1860) – Berkeley 17 (not including his pre-1660 appointment), Culpeper 6, Howard 2 (still in office in 1686); in New York (Ritchie 1977) – Nicolls 4, Lovelace 5, Andros 6, Dongan 3 (still in office in 1686); in New Hampshire (Batchellor 1904) – Cutt 1, Cranfield 3; in Barbados (Spurdle 1963) – F. Willoughby 3, W. Willoughby 6, Atkins 6, Dutton 5; in Jamaica (ibid) – Windsor 1, Modyford 7, Vaughan 4, Carlisle 2, Lynch 3; in the Leeward Islands (ibid) – Wheeler 1, Stapleton 14.

The average without those still in office in 1686 is 5.2. The median is 4.5. Excluding the Stuarts' private proprietary colonies or including those in office in

1686 does not significantly change the results. Rearranging the data in Figure 1, it can be seen that remaining more than 6 years in office was a very unlikely occurrence.

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