Trade or Raid: Acadian Settlers and Native Americans Before 1755

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Abstract

Under what institutional conditions are resources allocated via voluntary exchange rather than violent theft? To answer this question, we utilize the case of French colonists of Atlantic Canada (the Acadians) and a Native American tribe (the Mi'kmaq) between the 17th and 18th centuries in the areas around the Bay of Fundy in the modern provinces of Nova Scotia and New Brunswick. Under a relative state of anarchy, we argue that both the Acadians and the Mi'kmaq were able to minimize the relative returns to using violence by adopting rules of collective decision-making that favored consensus-building. By prioritizing consensus, distributional coalitions were faced with higher decision-making costs, making it difficult for concentrated interest groups within each society to capture the gains from fighting and spilling them over as external costs over the rest of the population. As a result, both the Acadians and the Mi'kmaq were incentivized to trade rather than raid.

Key Words: Anarchy; Collective Decision Making; Property Rights; Violence

JEL Codes: N51; D74; P14

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1. Introduction

Under what institutional conditions are resources allocated via voluntary exchange rather than violent theft? Economists have recognized the fundamental importance that well-defined and well-enforced property rights play in facilitating productive specialization and economic development. However, the fundamental basis for securing and defining property rights is the minimization of the returns to violence (Cox et al., 2015; North et al., 2009; Weingast 2016). The general depiction of Native American and colonial settler relations prior to the French and Indian Wars (1754-1763) was one of relative peace compared to the subsequent period (Demsetz, 1967).[1] Moreover, the anthropological (Vaughan, [1965] 1995; Washburn, 1988)[2] and economics literature (Bennett, 1955; Carlos and Lewis, 2010; Carlos, 2018) finds a substantial amount of peaceful trade between colonists and Native Americans, even though there were violent clashes. It is after the French and Indian Wars that relations between Native Americans and settlers deteriorated and raid becomes increasingly utilized over trade (Anderson and McChesney 1994; 2004). Why was the colonial era more peaceful?

One hypothesis pertains to the relative distribution of force between heterogeneous individuals, in this case Native Americans and colonial settlers (Leeson 2007; Sutter 1995; Umbeck 1981).[3] One key element in the literature pertaining to this hypothesis is that prior to the 1860s, relations were more peaceful in part because militias were the primary military forces, the

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[1] Which is not to say that the colonial era did not see their share of violent conflict.

[2] The reference to Washburn (1988) is most important as it is the volume on relations between settlers and Indians in the fifteen volumes of the *Handbook of North American Indians*.

[3] Sutter (1995), for example, puts forth a comparative theoretical analysis to answer that question. He argues that the prospects for cooperation and voluntary exchange under anarchic or quasi-anarchic conditions depend upon the distribution of individual property rights. That is, "the distribution of force among participants is crucial in the emergence of stable property rights" (1995: 602). Leeson (2007: 313-314) however demonstrates that among heterogeneous agents where the relative distribution of force is disproportionate, the use of credit can be a mechanism by which producers can keep the stocks of goods low, therefore decreasing the returns to theft and raising the relative benefits of trade among middlemen in late precolonial Africa.

cost of which were more concentrated on local populations, whose weaponry of the time offered no decisive advantage over Native American inhabitants. For example, in those British colonies that later formed the United States, the period between American Revolution and the U.S. Civil War marked the beginning of an increasingly violent relationship (Hughes, [1977] 1991; Roback, 1992; Anderson and McChesney, 1994; Anderson and Hill, 2004). However, it was only after the Civil War, thanks to a professional army with superior military technology, that raids ostensibly became the better way for settlers to acquire land (Anderson and McChesney, 1994: 58). With a professional army, the cost of using force to the individual settler became more diffuse over a larger population, thus discouraging the acquisition of land via exchange.

This hypothesis can be best understood within the framework of the Political Coase Theorem (PCT) made by Acemoglu (2003)[4]. The Coase theorem states that when private property rights are well-defined and transactions are low, individuals will bargain to an efficient outcome, irrespective of the initial assignment of property rights (Coase, 1960; Stigler, 1966: 113). Implicitly, the Coase theorem assumes that parties to an exchange are full residual claimants and will therefore bear the full costs and benefits of the outcomes of their decision-making. If one party to an exchange breaks an agreement, or if both parties are disputing an agreement, the existence of reputational mechanisms and rules to adjudicate conflict will increase the cost of using violence. Failure to abide by an agreement or rules for settling conflict will result in a loss of reputation in future trading periods. The implication of the Coase theorem applied to the context of political decision-making, however, is that political bargaining will not necessarily result in efficient outcomes.

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[4] For a version of this argument that is better embedded in economic history, one should consult Ogilvie and Carus (2014).

Under the context of the PCT, the logic of political decision-making is to concentrate benefits on well-informed and well-organized interest groups that represent a decision maker's constituency and disperse the costs on the masses of population. Whereas a private actor faces costs in terms of state punishment and loss of reputation for reneging on contractual agreements, government officials only bear a loss in reputation. However, even these costs are not fully concentrated on the particular public actor but are spilled over onto future generations of the public actors. Therefore, inefficient (sometimes disastrous) courses of action can be selected for the benefit of those who have disproportionate influences on political power, meaning that they concentrate benefits on distributional coalitions.

Within the PCT framework, how can we best explain the relatively peaceful initial state of trade between Native Americans and settlers? To answer this question, we use the case of French colonists of Atlantic Canada (the Acadians) and their Mi'kmaw[5] neighbors between the 17th and 18th centuries in the areas around the Bay of Fundy in the modern provinces of Nova Scotia and New Brunswick. The case is unique for two reasons.

The first is that historians agree that the relations between the two groups were *exceptionally* peaceful by historical standards (Clark, 1968; Griffiths, 1992; Faragher, 2006; Hodson 2012). The relations between the two groups only appear to have strengthened over time and the case only ended when the British forcefully deported the French colonists in 1755.[6] Second, the case is institutionally unique: both societies were essentially in a situation of statelessness. As the region of Acadia was essentially a borderland, the reach of the state was

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[5] The plural of Mi'kmaw is Mi'kmaq. Older historians and anthropologists used the Micmac/Micmacs convention for writing. We prefer the modern one as it is the one that is used by Mi'kmaq themselves.

[6] While this is an important event in Canadian history, its recounting here would distract from the argument being made. However, readers are invited to consult the work of Geloso (2015) on the public choice interpretation of the deportation of the Acadians.

limited. As historian Gregory Kennedy puts it, "the state was not able and not really interested in helping the colonists" (2014: 92). The Mi'kmaq and the Acadians were also essentially stateless, relying on consensual tribal/communal decision-making (Thwaites, 1959: 85-91).

In this paper, we argue that there are two primary reasons that can explain the presence of relative peace in that situation. First, the statelessness caused by the frequent changes in imperial affiliation and the lack of interest for direct rule meant that the Acadians were largely on their own. As such, the Acadians had to bear the costs of fighting with the Mi'kmaq. Absent a state, the formation of distributional coalitions that could externalize the costs of using violence was difficult to accomplish. This meant that the full cost of violence was borne by individual decision-makers, therefore incentivizing the use of trade for the allocation of resources.

Second, the absence of a state did not imply the absence of rules of governance. This brings us to the other reason for the presence of relative peace, which is relates to a distinction made by Buchanan and Tullock (1962) between the external costs and decision-making costs of organizing collective action. In the formation of rules governing collective action, there exists a tradeoff between the decision-making costs of achieving more inclusive rules and the external cost borne by private parties not part of collective decision-making. Given the relative state of anarchy, the decentralized nature of decision-making favored consensus-building rules among the Mi'kmaq (the council of the *sagamores*) and French colonists (the parish assembly). By prioritizing consensus, distributional coalitions were faced with higher decision-making costs, making it difficult for such concentrated interest groups to form in each society in order to capture the gains from fighting and spill them over as external costs over the rest of the population. Moreover, even if a coalition could be formed, the statelessness of both societies meant that it was virtually

impossible to enforce rules imposed for the private benefit of those who designed the rules. These conditions, we argue, largely favored the eschewing of violence.

The remainder of this paper is organized as follows. Section 2 presents the relations between Native Americans and colonial settlers in North America prior to the deportation of Acadians in 1755. Section 3 highlights the institutional conditions that facilitated social cooperation between the Acadians and the Mi'kmaq. Section 4 presents how trade over raid was accomplished in the region and the results in terms of living standards. Section 5 concludes.

2. Framing Native American and Settler Relations

To frame the broad outline of relations between Acadian settlers and the Mi'kmaq during the colonial era, it is best to think of it in terms of the decision over whether to trade or raid (Anderson and McChesney, 1994). This form of decision-making is the same as the decision to contract to arrive at an efficient outcome in the PCT (Acemoglu, 2003). The decision of whether to trade or raid is one based on the surplus from negotiation/trade for settlers (S_s) and Mi'kmaq (S_m)[7]. The surplus is determined by the differences between the gains of fighting (GF_s, GF_m) and the costs of fighting (CF_s, CF_m) and trading (CT_s, CT_m). For the Mi'kmaq or the Acadians to have a surplus from negotiation, the cost of fighting must exceed the gains from fighting and the costs from negotiation (equation 1) so that the sufficient condition for negotiation is the presence of a positive surplus from fighting (equation 2).

$$S_{sm} = CF_{sm} - GF_{sm} - CT_{sm} > 0 \tag{1}$$

$$S = S_s + S_m > 0 \tag{2}$$

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[7] Anderson and McChesney (1994) use "negotiating" in their work, but we use the term "trade," hence our modification of the terminology.

However, there are situations when raid is preferred over trade even if there is a surplus from negotiation. These situations depend on the distribution of gains and costs from the use of violence which in turn affect the security of property rights and the benefits of trade (Umbeck, 1981; Acemoglu, 2003). Assume that the GF_{sm} are divided over population B (for beneficiaries of violence) and CF_{sm} and CT_{sm} are divided over N (for overall population), that $N > B$ and that there is a cost to collective action (θ) which is equal for everyone. Assume also that α is the share of GF_{sm} that goes to B and that β is the share of CF_{sm} that goes to N.[8] Under the condition that the gains from fighting can be shared between B and policy-makers, as long as $\alpha GF_{sm}/B$ is greater than $(1-\beta)GF_{sm}/B$, CT_{sm}/N, and θ/B, B will push for raid. As long as $(1-\beta)CF_{sm}/N$ is smaller than $\beta GF_{sm}/N$, CT_{sm}/N and θ/N, then N will not resist the decision to raid even if they stand to lose.[9] When $N=B$, there is no ability to shift costs onto the majority and the benefits are equally shared. This implies that our attention should be focused squarely on what widens the difference between N and B. If there are institutional settings that limit the difference between these two groups (i.e. limiting distributional conflicts), efficient outcomes will be easier to achieve. However, if the size of N grows larger relative to B, then the transaction costs of organizing an interest group among B will tend to be smaller relative to N. Under these circumstances, B is able to capture concentrated gains from political exchange, the costs of which are spilled over and dispersed among N (Holcombe 2015: 48-49). Relative to the situation where $N=B$, this outcome will tend to be inefficient since the potential gains from trade for the population as a whole, or N, are foregone as the benefits of an increased use of violence becomes less costly and concentrated for B.

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[8] Under the constraint that α and β must be between 0 and 1, that $\alpha > (1-\alpha)$ and $\beta > (1-\beta)$

[9] The narrower (wider) the distribution of the gains (costs) from violence, the greater the chances of violence being used. The wider (narrower) the distribution of the gains (costs) from violence, the greater the chances of using negotiation.

During the colonial era, the main beneficiaries of violence were colonists who stood to gain farmland. They were the *B*. It is doubtful that, alone, they would have pushed for conflicts. First of all, the use of local militias implied that the costs of using violence would be concentrated on the beneficiaries themselves and could not be passed on to wider groups. Second, firearms on the frontier were expensive and the Mi'kmaq were also able to acquire them which negated the advantage of using violence.[10] Third, the Mi'kmaq arguably had the upper hand in terms of knowing the land, an advantage which Leach (1988: 129-130) argues that settlers never managed to overcome. To engage in conflict, there needed to be military help from Europe which occurred on many occasions. For example, in 1665 when the population of Quebec stood at 3,215 (Public Archives of Canada, 1874: 2), the French Crown sent the regiment of Carignan-Saliéres to defend the colony. At 1,200 men strong (equal to roughly one third of the local population), the regiment undertook to initiate the construction of numerous forts and campaign against the Mohawks in the area of Montreal (Verney, 1991). The costs of such operations were dispersed across the population of the French empire as a whole, with the benefits being concentrated among the settlers of Quebec. British colonists were also frequently engaged in conflicts with the Mi'kmaq, especially during the 17th century (Trigger, 1989; Richter, 1992, 2013), conflicts whose financial burden fell largely on Britain as the colonies represented net fiscal drains on the treasury as a result of military expenditures (Davis and Huttenback, 1982: 43-49). Generally, state intervention was a necessary condition for fighting to be the selected course of action by settlers.

This created a problem for European powers as settlers were often tempted to make local decisions, which could eventually lead to conflicts that distant, imperial governments did not

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[10] Bouchard (1999: 81) priced muskets in New France (modern day Quebec) at somewhere between 10 and 30 livres between 1720 and 1740 while Geloso finds that incomes per person during the era fluctuated between 93 and 136 livres (2016: 131).

desire.[11] This explains the efforts of colonial powers at curtailling relations between settlers and Native Americans (Roback, 1992: 11-17). Hughes ([1977] 1991: 27-28) points out that the British actively discouraged relations between settlers and Native Americans declaring "null and void" any land transactions with different Native American tribes that did not have governmental approval. This was a "minimal constraint" as such edicts were costly to enforce (Roback, 1992: 14). However, once this minimal restraint was eased because of the Revolutionary War, settlers and other interest groups who stood to gain from violence were able to exert greater influence on the levers of power. This was exemplified in the policy of Native American removal and the use of the army in the post-Civil War era to fight Native Americans in the West and the Southern United States (Roback, 1992; Anderson and McChesney, 1994; Anderson and Hill, 2004; Gregg and Wishart 2012).[12] As such, we should consider the evolution of relations between Native Americans and settlers as one where growing ability to distribute costs of violence on wider populations in order to capture concentrated benefits of violent theft looms large. In other words, the evolution can be explained by a widening of the differences between *B* and *N*.

3. The Acadian and Mi'kmaw Situation

In the region of Acadia, a combination of two factors limited the ability to form distributional coalitions. First, both the colonists and the Mi'kmaq can be considered as relatively stateless. This limited the ability to spread costs of violence over a wider population. It also meant that the settlers

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[11] One such example is the deportation of the Acadians in 1755 which was pushed for by the Massachusetts colony, but which London had explicitly disapproved and yet ended up paying for (Geloso, 2015).

[12] Gregg and Wishart (2012) considered the social cost of the removal of the Cherokees from the area they occupied in Alabama, Tennessee, North Carolina and Georgia during the 1830s. This is an important example as popular imagination concentrates largely on the postbellum era as the era of violence towards Native Americans. However, as Gregg and Wishart show, the budgetary cost alone represented 3% of the US GDP in 1830. For Cherokees, direct costs represented 17.13% of their GDP. For comparative purposes, the costlier war in American history, World War Two, constituted a burden equal to 1.88% of GDP. The social costs for Cherokees were even higher.

were unconstrained by edicts prohibiting them to exchange with natives directly. The second is that the main institutions for local governance among the Mi'kmaq and the Acadians relied on consensus-building. This prioritization of consensus legitimized some form of collective governance. This is easily explained by the statelessness of both communities: any rule that was not commonly agreed upon would have been difficult to enforce because of the absence of state enforcement. Combined, these elements limited the formation of distributional coalitions (i.e. no widening of the gap between B and N).

3.1 Statelessness in Acadia

What is known today as the Canadian province of Nova Scotia, Acadia (see Figure 1) was first colonized by French settlers in 1605. Between 1671 and 1755, its population grew from 500 to 16,000 (Clark, 1968: 121-131; Leblanc, 1979). As for the Mi'kmaq, little is known regarding their exact numbers, though we are certain that its population was comparatively lower. What we do know is that a pre-contact population of the Mi'kmaq has been estimated between 3,000 and 3,500 (Clark, 1968: 58), their numbers dwindling to between 2,200 and 2,500 by the mid-18th century (Gwyn, 2003: 76; Bock, 1978: 117).[13]

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[13] The reduction in numbers is largely attributable to the introduction of diseases that First Nations had never been exposed to. However, the magnitude of their population decline places the Mi'kmaq among the groups that suffered least from this problem.

Figure 1: Acadian Marshland Settlements around 1707
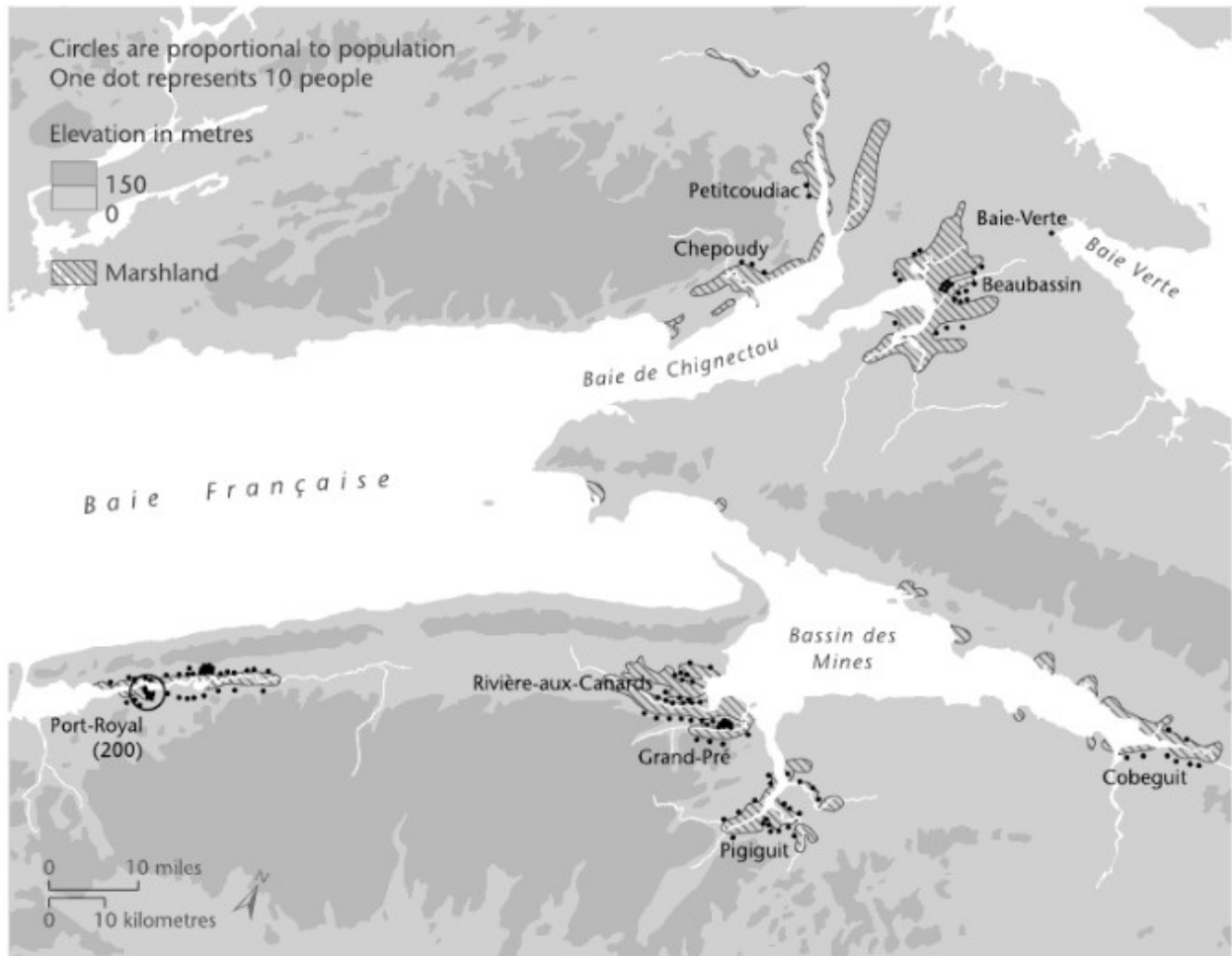
Source: Harris (2008: 58).

In terms of polity, the Mi'kmaq can easily be considered stateless as many other nomadic people.[14] A small nomadic people composed of many smaller local groups, most of the governance between Mi'kmaq occurred within these local groups (Thwaites, 1959: 85-91). Largely isolated within North America prior to the arrival of Europeans, there was very little room for specialization (through trade with other tribes) and thus the exchanges to be governed were relatively simple. In

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[14] See Leeson (2014: 155-169) for other examples.

addition, the local group leader (the *sagamo* or *sagamore*) was constrained by the ability of members of his group to defect to another group if unsatisfied with the local *sagamore*.

The polity of the Acadians can also be characterized as stateless. Unlike the French settlements in Quebec, it was largely ignored by the French crown and changed hands frequently before finally being ceded to the British in 1713. Once the British took possession of Acadia, they governed minimally. A purely symbolic tax, the *rente libératoire*, (quit rent) was enacted but the British imposed no militia requirement nor mandatory military recruitment (Harris, 2008: 57). They did not impose an oath of loyalty upon the local population, preferring instead to ask an oath of neutrality (Parmenter and Robison, 2007) which indicates how much ability to govern the British believed to possess.[15] Organized bureaucracies such as those observed in Quebec never emerged and imperial authorities had very little influence over the Acadians (Harris, 2008: 55-65).

An important illustration of this absence of state power relates to the legal transplantation of feudal institutions in seigneurial tenure. Under seigneurial tenure, the crown grants land to a landlord (*seigneur*) who will concede freely to peasants in exchange for the ability to tax them – a burden that represented 5% to 14% of farm income (Dechêne, 1992; Harris, [1966] 1984).[16] The *seigneur* also enjoyed a wide array of legally-supported monopolies that fall under the rubric of seigneurial rights. Such a system required the support of the state. Whereas seigneurial tenure was successfully transplanted in Quebec (Grenier, 2012), the system of seigneurial tenure never took root in Acadia (Harris, 2008: 60-62; Kennedy, 2014: 128-167; Griffiths, 1992: 20-23), largely because it required extensive state support. In Quebec, the seigneurs were active in assuring their

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[15] Which earned the nickname of the "neutrals" for the Acadians.
[16] The *seigneur* could impose the frontage tax of the *cens*, the conceded land area tax of the *rente*, the land sale tax of the *lods et ventes* as well as a wide array of ancilliary taxes that depended on the features of his estate. The *seigneur* also imposed the mandatory minimum labor provision of two to three days of work per year known as the *corvée* which could be avoided by paying a fee amounting to twice the daily wage rate for unskilled workers.

rights under that system were enforced thanks to the help of the state (Dickinson, 1982; Geloso and Lacombe, 2016). In Acadia, most peasants simply did not pay their taxes, nor did they grant much importance to the concessions made to seigneurs (Harris, 2008: 60-61). The enforcement of the system was so weak that settlements in Acadia are considered by historians as free ranging, similar to squatting and homesteading (Harris, 2008: 61; Griffiths, 1992: 21). The weakness of seigneurial tenure should be construed as a sign of the weakness of the state in the area. For both groups, statelessness meant that the costs of violence were borne largely by themselves and could not be shifted upon others. As such, it limited the distance between B and N.

3.2 Inclusive Decision-Making

Because of the weak and relatively short arm of the state, "settlers formed parish assemblies to run their own affairs and ... largely ignored political allegiances" (Heaman, 2015: 38). Although a relatively unimportant governance institution compared to seigneurial tenure in Quebec and France, the absence of government in Acadia meant that the parish assembly became a far more important focal point for governance and as a mechanism for collective decision-making (Kennedy, 2014: 168-205). The "borderlands conditions of Acadia such as military threats and the weakness of state institutions, reinforced the importance of the parish assembly in both civil affairs and political representation" (Kennedy, 2014: 38).

In France, the parish assembly was constituted by the heads of households, which served to elect a churchwarden, select local tax collectors, and select deputies for the meetings of the Estates-General. While in France the parish assemblies tended to be poorly attended, in Acadia, participation among heads of households skewed quite higher (Kennedy, 2008: 28-29). Given the statelessness of Acadia, the Acadians changed the nature of the institution and used it well beyond

the purposes it served elsewhere in the French-speaking world. The assemblies decided what course of action to follow as a colony through a designated delegate who would represent the parish and defend its interests for one year. Additionally, he acted as the community's main representative when dealing with both France and Britain. While both the French and British tried to assert authority over the region, delegates would try to act as the vanguard of local autonomy while limiting the ability of colonial powers to exert excess power. As such, the French and British endeavored to impose authority through the very Acadian delegates who made certain to keep them at arms-length. Finally, delegates bore the responsibility of negotiating deals with the Mi'kmaq in the region (Griffiths, 1992; Kennedy, 2008, 2014).

The setting was roughly similar for the Mi'kmaq. The Mi'kmaq were well spread out over a large territory. Each band would pick a chief (*sagamore*) who would be in charge of adjudicating conflicts and allocating hunting grounds within local groups. Within each group, the *sagamore* would generally come from one of the powerful families (Bock, 1978: 115). However, whole households could change groups if unsatisfied (Bock, 1978: 115-116) which acted as a constraint on the *sagamore* within each local group. The *sagamores* of all the groups would meet as equals to decide over war, peace, trade and decisions needed to be consensual (Patterson, 2009). When decisions concerned a wider realm than the Mi'kmaq, they would call a *Ricmaneu* which was a form of general assembly extending to all groups with the same language and would sometime include confederate groups outside the language (Thwaites, 1959: 85-91).

To summarize, the institutions of governance that emerged between the Acadians and Mi'kmaq were born out of the relative statelessness of the region. Unable to act as strong enforcers, collective decision-making required widespread approval and therefore tended towards inclusive consensus-making. The institutional outcomes of these decision-making processes limited the

degree to which distributional coalitions could emerge, and therefore the degree to which the costs of violence could be externalized and dispersed across the wider population.

4 Relations between Acadians and Mi'kmaq and Living Standards

4.1. Relations between both groups

In a state of relative anarchy, cooperation and trade is not automatically a foregone conclusion. Though the inclusive nature of collective decision-making among the Acadians and the Mi'kmaq increased the cost of using violence within these respective groups, it does not immediately imply that relations across the two groups will be peaceful. If, for example, the Acadians regard the Mi'kmaq as a common enemy and the transaction costs of trade across groups are prohibitively high, then each group may collectively regard violent theft as a lower cost mechanism of allocating resources compared to the costs of enforcing contractual exchange.

Mi'kmaq and Acadians were, after all, two distinct groups with drastically different cultures. While self-governance can emerge between and within homogeneous groupings in order to capture gains from trade (Ellickson, 1991; Greif, 1993; Leeson, 2014; Mazé and Ménard 2010), its potential to generate peaceful trade interactions is more limited between heterogenous groups whose social norms, preferences, beliefs and knowledge diverge. As such, this could have led to increased violence. Moreover, one can reasonably ask why, if they could so easily coordinate for self-governance, they did not coordinate for the production of violence. In fact, this question is a reasonable one given the fact that the Acadians were very well-armed in comparison to other settler societies. Why then did the net effect of statelessness in Acadia led to peaceful relations? The answer to this question, which we develop in greater detail below, is that even with the presence

of transaction costs to peaceful social cooperation, institutions will emerge to reduce such transaction costs by facilitating the creation of gains from trade and specialization.

According to Demsetz (1967), the prices of fur pelts and hats in Europe during this period were increasing rapidly largely because of soaring demand (see also Carlos and Lewis, 2010), which incentivized the creation and definition of property rights in fur pelts in order to internalize the costs of overhunting (see Figure 2). The Mi'kmaq had a comparative advantage in terms of trapping furs and the Acadians had a comparative advantage in getting the furs to European markets. The Acadians also acted as intermediaries in the fur trade with New England, which was technically illegal during the era of French rule. They would obtain furs from aboriginals which they would in turn trade with New Englanders for foreign goods, luxuries and agricultural products (Clark, 1968: 179-185).[17] Specialization by both groups created an interdependency where with the absence of one, the other would be worse off. In essence, the rising gains from the fur trade also increased the relative cost of using violence. It also provided strong incentives to find peaceful ways of achieving exchanges which made Acadia one of the richest settlements in the New World - even by conservative measures (see more below in Section 4.2)

Building on Demsetz's analysis, the rise of the fur trade also incentivized land reclamation among the Acadians, further increasing the scope for trade and specialization, and therefore further increasing the costs of using violence. The Acadians recognized the wooded uplands as belonging to the Mi'kmaq as this was where they preferred to hunt, fish and forage. Given the costs of excercising violence against the Mi'kmaq, the Acadians confined their settlements to the coastal

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[17] In 1720, after the cession of the region to the British, governor Richard Philipps claimed that trade between Acadia and New England stood at 10,000 £- a large part of which consisted of fur pelts. There is uncertainty as to which type of monetary units Philipps was referring to (New England currency, Halifax currency, Sterling currency or French currency. Simultaneously, the Acadians also traded with the French colony of Cape Breton, situated in the northern part of Nova Scotia. In 1740, it is believed that they traded for 26,939 livres (roughly 3.87 livres per person in Acadia) of which 20.1% were skins, hides or furs (Clark, 1968: 207, 255-259).

lowlands where they adapted European diking techniques to reclaim marshlands (Faragher, 2006: 85). Dyke building meant the erection of barriers of roughly five feet in height with a base equal to twice the width. These barriers would be accompanied by *aboiteaux* (clappervalve gates) which would drain the fresh water from the marshland while excluding salt water (Clark, 1968: 238-240). This allowed considerable land tracts to be reclaimed from the three different bays of the region (see Figure 1). These lands were considered to be remarkably productive and quite well-suited for pastoral production. In essence, the settlers "created" land without infringing on the property rights of the Mi'kmaq, which "sealed a pattern of good relations with the Mi'kmaq" (Faragher, 2014: 188). Historian David Jones argues how this proves the Acadians "lived largely free of the continual threat of imminent native attack or insurrection, a luxury by few other settler frontiers on the continent" (Jones, 2004: 23) while historian Christopher Hodson spoke of an "enviable security" between both groups (Hodson, 2012: 30).

The reclamation of these lands not only minimized the risks of conflict, but also generated further gains from trade and specialization between the two groups. The Mi'kmaq were seasonal nomads who hunted, fished and gathered (Clark, 1968: 59-61).[18] Combined with their relative geographic isolation (Clark, 1968: 57), the Mi'kmaq consumed little in the way of agricultural goods. The Acadians had opened up an agricultural base in a region where sedentary farming had never been present – this would help introduce a wider array of goods into the life of the Mi'kmaq people. They would trade agricultural goods, cloth, tools and implements with the Mi'kmaq in exchange for hunting products and services - as guides, even fur trappers.

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[18] They hunted seal in January. In February and March, they hunted otter, beaver, moose, bear and caribou. As of April, they fished (smelt, herring, shad, sturgeon and cod later in the summer). During the summer, they also hunted pigeon, partridge, hare and rabbit. Foraging and gathering yielded such edibles as roots, blueberries, beechnuts, wild pears and cranberries.

Besides the emergence of property rights through the fur trade and the reclamation of land, other institutions emerged that reduced the social distance between the groups and further facilitated exchange between the Acadians and the Mi'kmaq. This cultural intermingling would have acted to reduce social distance between the two groups in a way that minimized the problems caused by differences in preferences, beliefs and norms. This would have allowed sustained exchanges between the two groups (Leeson, 2008, 2009).

Andrew Clark speaks of the "absorption of the Micmacs by the Acadian community" as well as the "Micmac absorption of the Acadian" (Clark, 1968; Griffiths, 1992). This is not a far-fetched claim given the eagerness that the Acadians exhibited in adopting indigenous ways of life, such as hunting and clothing. A particular institution, noted by Patterson, (2009: 28) and Faragher, (2006: 85), that minimized social distance was intermarriage between the two groups. Faragher, (2006: 85) also points out how jargon mixing between French and Mi'kmawi'simk (an Algonkian language widely shared between the different Mi'kmaq groups) was widely adopted throughout the countryside, further facilitating cultural toleration and exchange between the two groups.

This kind of relationship was exceptional in North America, a fact that historians are wont to emphasize when discussing the Mi'kmaq; this persisted as late as the expulsion of the Acadians by the British in 1755 (Hodson, 2012). Once the British formally expelled the Acadians in 1755 and established more formal rule over the area, relations between Mi'kmaq and settlers deteriorated rapidly. The British established Native American reservations which they gradually reduced in size at the behest of local settlers (notably after the migration of American loyalists to Canada) and granted themselves the right to confirm the selection of chiefs (Bock, 1978: 117-119).

4.2. Living Standards

One could counter that violence was eschewed not because the gains from trade were superior but simply because what could be seized was not worth the cost of violence. In other words, the region was too poor to be violent. However, this would contradict important historical facts and prudent estimates of living standards. First, when the Acadians were forcibly deported in 1755, American settlers relished the idea of seizing their lands. Faragher (2006, 83) highlights a notable letter published in newspapers of New York, Pennsylvania and Maryland which presented the expulsion of the Acadians as a "Great and Noble Scheme" and a chance to obtain land "as good (…) as any in the world".

Second, a simple glance at agricultural statistics points to a rich region. In 1701, cattle, sheep and swine stood at 1.59, 1.58 and 1.03 per capita, respectively, in Acadia (Public Archives of Canada, 1874: 45). In 1706 in Quebec, these rates fell well below at 0.86, 0.11 and 0.45 per capita (Lunn, 1942: 443; Public Archives of Canada, 1874: 48). Given that livestock had to be imported from Europe (they are in fact not native to North America), such high numbers suggest a considerable degree of productive specialization and exchange in order to obtain them. Additionally, available sources point to grain yields of 6.67 *minots per arpents* (Garneau, 1859: 104) which is 8.7 bushels per acre in Quebec.[19] For Acadia, that figure is much higher at 15 bushels per acre (Clark, 1968: 163, fn. 132). It begins to explain how most historians identify the Acadians as a rich society for the time.[20] In fact, historians tend to point to population growth rates that are

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[19] The sources are not always precise as to which grain is being discussed, but wheat tended to be the main crop in Quebec and Acadia.
[20] A good illustration of this relative wealth is exemplified in the work of Griffiths (1984) where the period from 1713 to 1748 is labelled as a *golden age*.

far above those of the American colonies which suggests the ability to accommodate a larger population.[21]

Third, we can import tools used by cliometricians to historically measure the size of economies in the past. This should permit a comparison of living standards with relevant societies at the time. This can be done by following the methods pioneered by Altman (1988) and adapted by Geloso (2016, 2018) for the colony of Quebec. Through available census data collected by French authorities (for the purposes of this paper, we refer to the 1701 and 1707 censuses), one can employ their methods to directly compute output. The details of this computation, however, are lengthy at best, and as such readers are invited to consult the appendix detailing calculations and accompanying caveats. However, readers should be aware that the estimates were constructed to be as conservative as possible. From Table 1, Acadia appears to have been a relatively rich colony, probably on par with New England, and well above the French colony of Quebec and the Spanish colonies of Latin America. It was on par with New England, but it was substantially richer than France and its sister-colony of Quebec.

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[21] The Acadian data provided by (Leblanc, 1979) suggests a compounded growth rate of 4.73% per year between 1710 and 1755. The data for Massachusetts and the whole of the thirteen colonies provided by (Rabushka, 2008) suggest slower growth rates of 2.57% and 3.25%.

Table 1: GDP per capita in different regions of North America and Europe (where Quebec =100%)

	1701	1707
Peru (Low)	71.4%	62.4%
Peru (High)	79.3%	63.3%
<u>Quebec</u>	<u>100.0%</u>	<u>100.0%</u>
Mexico (Low)	103.6%	90.7%
Mexico (High)	115.1%	91.9%
France (Low)	118.4%	103.3%
France (High)	131.5%	104.7%
Acadia (Low)	165.9%	-169.3%
New England	204.5%	220.2%
Acadia (High)	205.8%	207.5%
Britain (Low)	197.9%	164.7%
Britain (High)	240.9%	254.0%

Sources: The numbers for Quebec are cited in (Geloso, 2017). The New England figures are from Lindert and Williamson (2016) who produced their income estimates through a social tables approach and which are expressed in welfare ratios. The figures for Peru and Mexico are expressed in 1990 Geary-Khamis dollars and are taken from Abad and van Zanden (2016). The low figure from Britain comes from Lindert and Williamson (2016) while the high figure is expressed in 1990 Geary-Khamis dollars in the work of Broadberry et al. (2015). The numbers for France are expressed in 1990 Geary-Khamis and come from the work of Ridolfi (2017). For more details, readers should consult section A.2. in the appendix to this paper.
Notes: When needed, linear interpolations were used to arrive at the values in 1701 and 1707.

Less is known about the living standards of the Mi'kmaq. However, there is reason to be cautiously optimistic. Evidence of this can be gleaned from the work of Carlos and Lewis (2001) who states that the fur trade in the Hudson Bay region increased the variety of consumer choices to the Mi'kmaq who could then acquire a wider selection of goods. In response to these new options, they responded in kind by increasing their supply of labor to the fur trade. In part, this contributed to the achievement of a relatively high living standards (Carlos and Lewis, 2010). The peaceful nature of their relationship and the extent of trade between the two groups paints a more favorable portrait of the remote Hudson Bay area than that offered by Carlos and Lewis. Thus, it seems probable that living standards improved as a result of peaceful trade. Taken as a whole, these elements suggest that the colony had a large productive potential which was evidently harnessed in a peaceful manner.

5. Conclusion

In order for individuals to realize the increasing returns to productive specialization and exchange, institutional conditions must also reduce the returns to allocating resources through violent theft. We have argued that decisions over whether to trade or raid between settlers and the Mi'kmaq depended in large part on the institutional systems that surrounded collective decision-making and if they were able to serve the interests of distributional coalitions by shifting costs onto broad populations while concentrating benefits squarely in their hands.

The core idea is that these if distributional coalitions are able to push for violence, even if trade is superior alternative of resource allocation, then the relative returns to using acquiring resources through violence will increase. To illustrate this point, we've drawn a broad outline of the Native American and settler relations where the ability to form distributional coalitions plays a heavy role. We highlighted an exceptional case – that of the Acadians and Mi'kmaq who occupied the area around the Bay of Fundy in modern New Brunswick and Nova Scotia. The Acadian settlers who occupied the area received little protection from the state, whose reach and capacities were limited. As a result, colonists were left to fend for themselves – meaning they had to bear the full costs from raiding the Mi'kmaq. Additionally, local governance institutions - which they developed - forced a decision mechanism that favored consensus-building; while it meant high decision costs, it also served to limit the capacity to externalize the costs of using violence. Faced with this situation, trading was preferred over raiding. To secure peaceful relations, French settlers confined their settlements to coastal lowlands where they drained marshlands. By doing so they "created" new farmlands, the by-product of which was for the Acadians to further secure peaceful relations with the Mi'kmaq by further increasing the scope for trade and specialization

with the Mi'kmaq. The region appears to have been relatively rich - even by conservative measures, and relations between both groups have been described as exceptionally friendly for the time.

This example, where decisions to trade or raid were made in a context of relative statelessness, offers an interesting counterfactual assertion. It suggests that the settlement of North America could have been more peaceful and to the mutual benefit of both the European colonists and Native Americans. This is fertile territory for critical implication, as it suggests that it was the ability of institutions to concentrate benefits on special interest groups seeking new land that inevitably tip the scales in favor of raiding. Recently, economists have expressed a renewed interest in the effects of forceful interactions between the Mi'kmaq and colonial settlers (Dippel, 2014). To complement this emerging literature, economic historians and economists should consider other possible counterfactuals in order to better document the role of institutions in determining the extent of violence in the settlement of North America.

APPENDIX A. CALCULATION OF GDP

A.1. Censuses of 1701 and 1707

The method undertaken to compute GDP herein expands on the model developed by Morris Altman (1988) and refined by Vincent Geloso (2018). The approach is relatively straightforward, as it simply adds up different outputs weighed by a fixed vector of prices (Crafts and Harley, 1992; Broadberry et al. 2015). However, this requires a broad range of macroeconomic information. In the case of Quebec, Altman and Geloso utilized data and research culled from censuses and tithe

surveys conducted under both French and British rule, allowing them to create multiple estimates over time when combined with trade data and assumptions from secondary sources.

In the case of Acadia, there are not as many censuses to draw from, which is to be expected given the limited reach of the state in the region. However, this does not and should not imply the absence of useful census data. In fact, there are two very reliable censuses that can help estimate output: 1701 and 1707.[22] The 1701 census is notably nominal - the names of all the individuals within a household are included rather than simply those of the household heads (like we see in the 1707 census). They also offer the considerable advantage of containing important insights into the extent of improved land holdings as well as the size of the cattle, sheep and swine herds. Subsequent to this, there is no census that reports this type of information until the dispersion of the Acadians by the British in 1755.

Finally, it must be pointed out that the estimates offered here are biased downwards for two important reasons: first, the quantitative evidence for the extent of the fur trade is limited. As such, a conservative approach was adopted in estimating fur output and more than likely underestimates its true scope, as suggested by the qualitative evidence - especially that relayed by Andrew Clark (1968). Secondly, minor sectors of agricultural production are excluded (notably horse breeding and poultry), as well as the important value of capital goods investments in the form of dykes. Consequently, the resulting estimates are downwardly biased.

Geloso (2016; 2018) used both qualitative and quantitative evidence on Quebec to create a wide-ranging array of income measures that can be compared in order to use it as a pivot point

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[22] The 1701 census is available in the 1871 census of Canada, fourth volume, which compiles summaries for most censuses prior to that point (Public Archives of Canada, 1874). The census of 1707 is detailed in the work of Clark (1968: 234-235) but does contains some errors in calculation. Readers should consult the compilations available here (http://139.103.17.56/cea/livres/doc.cfm?ident=R0231&cform=T), which are drawn directly from Library and Archives Canada (Series G1, Vol. 466-1).

between non-comparable measures for other countries. There are three methods to evaluate living standards that exist. Geloso calculated nominal incomes which he then deflated by the commonly-used bare-bones bundles to compare with New England and Britain.[23] However, in comparing Quebec with France, Peru, Mexico and another measure for Britain, he was obliged to shift to the Geary-Khamis dollar approach developed by Angus Maddison (2007).[24] As such, comparisons are in different units. These two approaches cannot be used for Acadia because of the absence of price vectors for the colony, meaning that the third approach used by Geloso must be adopted. This is possible since Acadia and Quebec used the same monetary system and were more or less similar colonies. This method proves to be the more conventional tack of computing GDP as a volume index where quantities are converted by a fixed vector of prices.[25] However, since Quebec's living standards are expressed in all available measurements, it can thus serve as a pivot point where all other areas are expressed as a percentage of Quebec. This allows a cardinal ranking of living standards which can be observed in Table 1 above.

A.2. Prices

As there is no wide vector of prices for Acadia when comparing with other regions, I had no choice but to use price vectors from 1739 for Quebec - the same used by Geloso (2016; 2018) to estimate the colony's GDP.

A.3 Grain Output

We preserved the core assumptions made by Geloso and Altman to measure net output for wheat. This method is predicated on assuming that 75 per cent of cultivated land was allocated to

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[23] This approach is known as the welfare ratio approach. One should consult Allen (2001) for details about this approach, which is meant to create purchasing power parities that are superior to using exchange rates.
[24] Geary-Khamis dollars estimates do not exist for the American colonies. For Britain, estimates of income exist in both forms.
[25] See notably Gerschenkron (1947) for a detailed methodological discussion of this approach.

the growing of wheat. Seed requirements are retrenched by assuming that two *minots* were sown per *arpent* which produces the estimate of net wheat output (1 *minot* = 1.107 bushels and 1 *arpent* = 0.845 acres). We also assumed that all other grain output was allocated as inputs into pastoral output, from which we retracted an additional 20% of net wheat output to reflect feed for animals. Censuses, however, did not report actual output of grain, meaning we must import an approach to help calculate yields per unit of land must be imported. In this case, we opted to create a low and high bound. The low bound uses Garneau's estimate of 6.66 minots per arpent which applies to Quebec (Garneau, 1859: 104). The high bound uses the figure of 11 minots per arpent provided by Dechêne (Dechêne, 1992: 186) for the region of Montreal. This high estimate is roughly the same as that of Acadia, suggesting the possibility that the reality is closer to the upper bound (Clark, 1968: 163, fn.132).

A.4. Pastoral Output

The estimation of output is based on the method developed by Geloso (2016) and influenced by the work of Winifred Rothenberg for the farmers of Massachussetts circa 1800 (1979: 995). In terms of dressed meat (which accounts for losses in transformation), a cow weighed 221.3 pounds, an ox weighed 402.4 pounds, and a steer weighed 189.9 pounds. Rothenberg also observed how the percentage of oxen, cows, and steers that were slaughtered differed significantly (the rates of slaughter stood respectively at 20%, 12%, and 50%). Thanks to Rothenberg's theories, we can isolate the total quantity of meat produced from cattle. To divide cattle into finer categories, we use herd composition data from Dépatie (1988). To estimate the meat produced from pigs and sheep, we use the price for lard and beef as there are no prices for pork and mutton. The dressed weight and slaughter rate for pigs are also drawn from Rothenberg. For sheep, we imported the

method of Geloso et al. (2017) where one-third of sheep were slaughtered and each one weighed 60% of its life weight (75 pounds).

A.5. Wool & Dairy Output

With regard to production of wool, Altman multiplies the quantity of sheep reported by 1.3 pounds while Geloso relies on the 1851/52 census figure of 2.2 pounds per sheep (Public Archives of Canada, 1874: 219-221). Both figures are used to derive the lower and upper bounds of wool output. As for dairy output, Altman estimates 44 pounds of butter equivalents per cow; different versions of this calculation appear in other papers. However, in a later article Altman (1998) places the proportion at twice that amount. By comparison, authors like McInnis and Lewis (1984) put it at 92 pounds per cow (as per their work on the 1851 census of Canada East (Quebec)). Evidence assembled by Geloso et al. (2017) points to findings that are much closer to this higher bound. Nonetheless, in his output on Acadia, Clark (1968: 168, 243-244) highlights qualitative evidence of contemporary observers who argued for the low productivity of cows. As such, we will use both bounds to create a range estimate.

A.6. Firewood

Altman's (1988) research places firewood output at 13 *livres* per capita while Geloso (2016; 2018) assumes that, given environmental constraints, it would have been impossible to survive with any less than 20 (French) cords of firewood; he therefore set this as the bare minimum required to be produced.[26] Given the small size of the Acadian population and the availability of land, firewood was a relatively cheap commodity.

A.7. Fisheries

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[26] French cords are smaller: 48 cubic feet as opposed to 128 cubic feet.

The output of fisheries was not measured often for the Acadian region. What is more, the issue of estimating output is rendered more complicated by the fact that the Acadian fishing fleet was complemented by transient ships from France. In his work, Andrew Clark references a report by Lieutenant-Governor Thomas Caulfield of Nova Scotia who, in 1715, estimated that the inhabitants of the Minas region (where 38% of the Acadian population reported in the 1707 census resided) had between 30 and 40 vessels which they built themselves (Clark, 1968: 247). Cautiously, I will assume that these ships represent the entirety of the fleet.

To arrive at the value of output, we rely heavily on the work of Balcom (1984). For 1718, in the French colony of Cape Breton (northern Nova Scotia), he calculated that fisheries yielded 156,500 *quintaux*[27] when there were 626 ships engaged in the region - this means that each one produced 250 *quintaux* (Balcom, 1984: 35, 47). The price in 1739 for a *quintal* is obtained by dividing the value of cod exports by the quantity of cod *quintaux* exported (20 *livres* per *quintal*) (Balcom, 1984: 17, 35). The average output of a ship in 1718 is multiplied by the 1739 price (which allows us to maintain comparability with the Geloso price dataset) and then deflated by 40.9 % to account for the value of inputs needed to produce cod (Balcom, 1984: 58). The low bound and high bound of the values of cod output is based on the ranges provided by Caulfield.

A.8. Furs

The ability to estimate fur as a commodity proved highly problematic as there are few estimates of actual output, a large part of which was exported illegally (Murray 1938). Several methods were attempted and produced important differences which could not be properly evaluated in terms of plausibility.

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[27] The plural of a *quintal* which weighs 48.95 kg

As a result, we had to adopt a conservative approach based on the potential Mi'kmaw labor force involved trapping furs. Julian Gwyn estimated there to be "perhaps less than three hundred potential trappers" throughout the 18th century (2003: 76) for a total population hovering between 2,200 and 2,500 (between 12 % and 13.6% of the population were trappers). When furs were shipped, they were measured by pack (a compact bale of furs weighing 80 to 90 pounds) (Gélinas, 2000: 414).[28] In the Hudson Bay region, the York Factory, operated by the Hudson Bay Company, received an average of between 23.48 and 26.68 skins per trapper.[29] If we use the proportions suggested by Gwyn (2003: 76), we arrive at a labor force of between 1,032 and 1,173 trappers. The number of skins traded at the York Factory (Carlos and Lewis, 2011: 189-191) are then divided by the number of trappers. While this is a shortcut, we presume that all skins are beaver skins. Given a weight of 1.3 pounds per skin (Wien, 1990: 305, fn.55), this shows us how each trapper in the region was providing between 30.5 and 34.7 pounds of skins. Nothing in the sources for Acadia lends support to such high proportions, so we have chosen to scale these proportions by half. This is an arbitrary decision, but it does line up better with our understanding of the fur trade in the mid-18th century (Gwyn, 2003: 71-72). The total value was deflated by 13 % (an assumption used by both Altman and Geloso in their estimates of Quebec's GDP) to avoid double counting. We also excluded the 25 % tax which Altman and Geloso argue are already embedded in the price of furs.

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[28] Lunn (1942: 118) suggests 70 to 80 pounds, but it is important to note that she is referring to the French pound (489.5 grams) as opposed to the British pound (453.6 grans).

[29] To arrive at this estimate, we took the population figure of 8,600 from the middle of the 18th century for this region as given by Carlos and Lewis (2011: 72).

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