

**Note: This is a very preliminary draft, but comments are very much welcome*

Commerce and Crime: States, Property Rights, and the War on Trade, 1700-1815

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Why do governments actively promote criminal behavior? History up to the present day provides many examples where states have not suppressed but rather supported activities like extortion, production of illegal commodities, smuggling or outright terrorism. Yet evidence strongly suggests that the costs involved are dramatic: countries have lower economic growth and a high potential for political conflict. This study uses new quantitative evidence on eighteenth-century British and French privateering - state-licensed piracy and commerce raiding by private ships - to identify the conditions under which states promote criminal and semi-legal activities, and how these activities influence economic and political performance. Privateering is an institutional arrangement that enforces property rights of domestic merchants but denies foreign merchants the same rights. A selective property rights model is used to demonstrate how legalizing illegal piracy as privateering was also a domestic political instrument that worked much like patron-client networks in binding elites to the interests of state-building princes. For merchants, privateering was a means to compensate for trade losses during war. For state-building rulers, it provided a supplement to the navy at no cost and, in true mercantilist fashion, undermined the trade of rival states.

1. Introduction

Why do governments actively promote criminal behavior? History up to the present day provides many examples where states have not suppressed but supported activities like extortion, production of illegal commodities, smuggling or outright terrorism. Evidence strongly suggests that the costs involved are dramatic: sponsoring countries have lower economic growth and a high potential for political conflict. Despite its economic and political importance, the lack of reliable microdata has inhibited systematic research on this puzzle. We use quantitative evidence from privateering - state-licensed raiding of foreign commerce ships by private vessels - to identify the conditions under which states promote criminal activities to further their own interests.

Privateering offers a privileged subject to study the establishment and change of a formerly illegal practice as a state-sanctioned institution and how it shaped economic and political performance. Privateers differ from pirates to the extent that their ventures

are legalized by commissions of a state, usually in an effort to undermine the trade of rival states. From medieval times until its international ban in 1856, it was common for rulers and state governments to encourage privateering against foreign ships during wartime. Privateering at once opened new business opportunities to merchant elites and enhanced the strength of navies without increasing the financial burden and risk for governments. This gave rise to an entire lineage of successful corsairs, from Sir Francis Drake in Elizabethan England to Robert Surcouf in Napoleonic France. Privateering thus became a legal weapon in the hand of the state against its enemies. The scale and impact of privateering during the “long eighteenth century” was immense, involving nearly 7,000 privateering ships dispatched from Britain alone in the period 1702-1783.

Using unique data on eighteenth-century British and French privateering, we focus on two fundamental questions: First, why did states actively disrupt international trade if it was the most important source of economic wealth? Second, what were the economic and political benefits for those engaged in privateering, and what direct and indirect costs were inflicted by it?

We answer these questions through the lens of institutional transformation, and draw particular attention to the importance of economic institutions for political coordination and state-building. A large body of evidence similarly suggests that the presence of institutions played a crucial role for the rise of Western Europe (Ertman 1997; North and Thomas 1973; North and Weingast, 1989) as much as its absence did for the poor economic performance of many developing and transition countries (Acemoglu et al., 2005a; Easterly and Levine 1997; Murrell, 2005). Contemporary theories stress various ways in which institutions facilitate cooperation by providing agents with the incentives and commitment devices necessary for functioning markets (Eggertsson 1990; Fligstein 2001; Greif, Milgrom, and Weingast 1994; North 1990). Two core institutions for social and economic exchange relationships are contract-enforcing institutions that determine the range of sustainable economic transactions, and property-rights institutions, that protect private property against expropriation by the state or other groups (Greif, 2005b; North, 1981).

This paper focuses on property-rights institutions, which have been much less analyzed than contract-enforcing institutions. In particular, our central argument is that privateering and similar state-sponsored activities are best studied as problems of

selective property rights. Proponents of institutional economics emphasize property rights as an institutional device that facilitates cooperation and coordination in market transactions (Alchian and Demsetz, 1973; Barzel, 1989; Demsetz, 1967; Eggertsson, 1990; Libecap, 1989). Research in this area has viewed property rights either as a public good or as completely absent. The first view analyzes how different arrangements of property rights affect individual incentives for investment and production in firms (Grossman and Hart, 1986; Hart and Moore, 1990), while the second asks how economic and social exchange can be sustained if property rights are absent or not enforced by the state (Dixit, 2004; Greif, 2005a; Grossman and Kim, 1995; Hirshleifer, 1995, 2001; Skaperdas, 1992).

Some empirical cases like the Sicilian and Russian Mafia show that alternative private-order institutions may arise that facilitate social and economic exchange in the absence of a well-functioning state (Blok 1975; Gambetta, 1993; Varese, 2001). However, an intermediate, yet empirically prevalent situation is rarely accounted for: cases where the state is present, but enforces property rights only for a selected group and not for everyone. The two studies closest to our analysis also view property rights as a private good. Greif (2005a) argues that rulers in the medieval Mediterranean had an incentive to expropriate foreign merchants trading within their territory. Protection was selectively extended to those who could return the favor with political and economic support. In this case, the ties that bind merchants and rulers through the granting of selective property rights are equivalent to a patron-client system. Likewise, Haber et al. (2003) argue that the commitment of political leaders to providing property rights as a private good and to guarding private ownership against expropriation led to growth in key sectors of the early twentieth-century Mexican economy despite political chaos.

We argue that privateering similarly constituted a selective institution that gave rise to economic and political advantages for those involved. Privateering embodied a selective institution in two crucial respects: first, the set of people who could invoke property rights and seek compensation through privateering was limited to domestic merchants. Second, the set of goods that could be expropriated by privateers was limited to those carried by vessels designated as enemy ships. Property rights are private goods whose partial enforcement is used by the state to further its own interest (or that of its ruling elite). In this view, the state constitutes a corporate actor that shapes

political and economic organization through the type of enforcement of contracts and property rights (Barzel 2002; Campbell and Lindberg 1990; Greif 2005a).

There are several good reasons why states might encourage privateering, a semi-legal activity at best that otherwise seems little different from piracy. First, privateering targets the trade of enemies, seeking to undermine it, which was very much in line with the mercantilist doctrine in the eighteenth century. Second, commissioning letters of marque to merchants offered a way to compensate merchants for their trade losses during warfare. Privateering was also a safeguard for a country's trade since it kept these same merchants from becoming pirates who would prey on domestic and enemy alike during military conflicts. However, since privateering was a substitute for regular merchant trade it potentially diverted resources away from one's trade. Consequently, if states supported privateering to harm their enemies and privateers were recruited mostly from merchants, this would decrease a country's own trade. We suggest two explanations to potentially account for this paradox. First, if a given state does not control sufficient independent resources to survive in a war, its government will have to rely on powerful social groups to support it during the conflict. Second, conflicts may limit constrain trade opportunities to such an extent that merchants are left with negligible business. Idle resources are then easily mobilized to support the state in its struggle and also create new business opportunities for privateers. Our preliminary evidence suggests, for instance, that eighteenth-century France closely corresponded to this condition.

To answer these questions we collect new data from British and French archival sources that cover the incidence, organization and profitability of privateering enterprises at the level of individual merchant privateers. With few exceptions (e.g. Bromley 1987; Robidou 1919), the majority of existing studies rely on aggregate data that do not provide the necessary detail for analyzing the social and economic organization of privateering (e.g. Crowhurst 1977, 1989; Hirrien 2004; Starkey 1990; Starkey et al. 1997; Swanson 1991; Thomson 1994). However, we do not confine our analysis to historical micro-data, but integrate them with systematic time series data on the intensity of military conflict, the volume of import and export trade, the extent of urbanization, and the recruitment patterns, organization and strength of the British and French navies over the period 1700-1815. The few social science studies of privateering

often suffer from methodological and data limitations (in size or time span) to support their interpretative arguments (e.g. Anderson and Gifford 1991; Conybeare and Sandler 1993).

Most historical analyses are built on small, highly selected samples driven by the data available for the period. In many cases, these restrictions inhibit rigorous empirical analysis or render inferences beyond the specific sample at hand invalid. We provide two solutions to this problem: first, by collecting better data, which allows us to use rigorous empirical methods to study privateering selected ports. Second, we employ analytic methods from microeconometrics to correct for the selectivity of our privateering samples, in particular the data on privateering profits. The basic idea is the following: suppose we have two samples of data. The first one is a selective sample with high quality data (the privateering data from Saint-Malo and Bristol). The second sample is a larger dataset with missing variables or measurement error (like our data from other British and French ports). We can then use the larger sample to reweigh the observations in the selected sample (Manski and Lerman, 1977; Manski, 1995). This allows us to estimate parameters that are valid for the whole population of privateers and not only for privateers in the specific port. This in turn ensures that we can accurately calculate the overall benefits and costs inflicted by privateering for Britain and France.

The paper makes several contributions to the literature. First, our paper deals with the "dark side" of institutions used to disrupt markets while the previous literature on the institutional foundations of markets focuses on the mechanisms to facilitate and encourage cooperation. Second, we study privateering as a problem of selective property rights. Privateering is an institutional arrangement that enforces property rights of domestic merchants but denies foreign merchants the same rights. Third, we collect new data on the incidence, organization and profitability of privateering voyages in Britain and France between 1700 (right before the beginning of the War of the Spanish Succession in 1701) and 1815 (the end of the Napoleonic Wars). Existing datasets are either at the aggregate level or not suited for systematic comparative analysis over such a long period. Finally, our empirical analysis uses microeconomic methods for selected samples to analyze the incentives and success of privateering at the individual level and its impact on the larger economy.

Insights from this historical setting carry particularly important implications for developing and transition countries where an institutional framework for the full enforcement of property and other rights is not secured. Above all, we suggest that this study will contribute to a better understanding of how exactly polities that presently lack such enforcement might arrive at a stable institutional environment conducive to economic growth.

The paper proceeds as follows. The next section provides background information on the political and economic conflict between England and France and the characteristics of the privateering business in the eighteenth century. Section 3 outlines a simple model of interstate rivalry and intrastate cooperation. In Section 4, we introduce our data and provide descriptive evidence on the role of privateering, while Section 5 reports our empirical results. Finally, Section 6 discusses the implications and concludes.

2. Institutional Background

2.1. Trade and Conflict: England and France during the 18th Century

Our sample period from 1700 to 1815 is not an arbitrary one. On the one hand, the War of the Spanish Succession in 1701 is commonly regarded as the beginning of a new era wherein Britain came to succeed the United Provinces as the supreme maritime power, while France became the primary rival throughout the eighteenth century (Brewer 1989). On the other hand, the Revolutionary and Napoleonic Wars from 1793 until 1815 not only gave way to nearly forty years without military conflicts between Europe's major powers, but also ended one of the most intense periods of French privateering (Bromley 1987; Crowhurst 1977, 1989).

Early modern Europe witnessed the rise of merchant elites as a central political force and financial resource for state governments (Brenner 1993; de Vries and van der Woude 1997; Lespagnol 1990; Tracy 1991). However, as states engaged in military confrontations, their merchant trade often suffered severe losses as routes were cut off and ships expropriated by the enemy. The time series in figure 1 show that the impact of warfare on export and import trades differed across countries. Panel A reveals a slow but steady increase in British trade until the American Revolutionary War (1776-1783),

another rise until the Revolutionary and Napoleonic Wars with France (1793-1815), followed by a more turbulent pattern thereafter. The overall trend shows an increase in British import and export trade throughout the eighteenth century. The pattern is different for France. Panel B reveals that military conflicts shaped French import and export trades to a much larger extent compared to Britain. Throughout the Wars of Polish and Austrian Succession in the 1730s and 1740s, French trade still increased, but it was followed by a sharp decrease in the Seven Years War with Britain (1755/56-1763). A similar pattern occurred in the second half of the century: an initial increase in trade during the late 1770s and early 1780s, where France most likely profited from Britain's involvement in the American Revolutionary War, and again a sharp decline during the French Revolutionary Wars beginning in 1793. The Napoleonic Wars in the early 1800s witnessed an initial increase in the French trade volume followed by another sharp decrease toward the end of Napoleon's reign. Comparison of these time series for both countries thus suggests that French merchants were substantially more likely than British merchants to suffer losses during wars. The comparatively higher losses of French merchants may also account for the observation made by many historians that France relied much more on privateering for naval warfare than Britain did. Indeed, some historians have noted that the late eighteenth-century French navy rarely consisted of much else but privateering vessels (Thomson 1994).

In this situation, privateering served both merchants and state agents. For merchants, privateering was a means to seek compensation for their trade losses through the opening of new business opportunities and profits. For state-builders, as we show below, privateering provided a supplement to the navy at no cost and, in true mercantilist fashion, undermined the trade of rival states (Bromley 1987; Crowhurst, 1977, 1989; Irwin 1996; Starkey, 1990; Swanson, 1993). Hence, we argue that legalizing piracy as privateering was also a domestic political instrument that worked much like patron-client networks in binding elites to the interests of ruling monarchs and princes (Namier 1957). Rulers could use the selective enforcement of property rights to secure the support of political elites during wars and beyond (Brenner 1993). Our quantitative evidence will therefore also support recent arguments that variation in state formation owes as much to domestic elite conflict as it does to inter-state warfare and economic competition (e.g. Lachmann 2000).

2.2. Characteristics of the Privateering Business

The origins of privateering date back to medieval times when it emerged as one means of recompensation for merchants who did not get repaid for debts or whose goods were captured by pirates. As a recognized element of international law, a *letter of marque* was issued to the victims of such raids by their own political authority. The letter of marque authorized merchants as privateers: it was a license to loot the property of any compatriot of the predator to seek reimbursement for the losses incurred. The legal entitlement of privateers sharply distinguished them from pirates who pursued the same practice (commerce raiding), but did so without authorization and were therefore outlawed as “enemies to all mankind” (Mollat 1972, 1975; Reyerson 2003; Tai 2003). The legal sanctioning of activities that were otherwise considered criminal is perhaps most visible in the highly regulated nature of privateering. In eighteenth-century Britain, for example, the High Court of Admiralty included a Prize Court that ruled on the validity of all prize ships seized by British privateers (Bromley 1987; Starkey 1990). The letter of marque entailed an explicit contractual relationship between the state and its merchants, which defined specifically the nations whose commerce ships could be taken as valid prizes by privateers. Negative sanctions were severe if the property rights of neutral powers were violated (Crowhurst 1989; Lunsford-Poe 2005; Swanson 1991; Thomson 1994).

The historical case of privateering, we argue, is a particular instance of the more general phenomenon of selective property rights institutions. Privateering entails an explicit contract (the letter of *marque*) between the state and privateers, which legalizes piracy by defining some property rights as valid (the state's own merchants) and others as void (merchants of the enemy state). The form of the contract is such that it specifies whose property rights are invalid. State enforcement imposes heavy penalties if property rights of merchants from countries other than those defined as enemies are violated. The selective nature of the contract secures the benefits from a given country's own trade by limiting piracy. At the same time it encourages one's merchants to become privateers in order to harm the enemy's trade, which in the mercantilist period was also considered a benefit to the home country.

Beyond its impact on economic performance in inter-state rivalries, privateering also operated as an instrument for political mobilization in the hand of state rulers. Privateering enabled the state to gain political support and mobilize resources from the merchant class for the conflict. In that perspective, privateering is a means to limit the current losses of the conflict for merchants by opening up new ‘business opportunities’. This is especially important if the merchant class is the dominant force in society (=argument of mercantilism as rent-seeking by merchants) or the state is not powerful enough by itself to fight conflicts = social relationship/cooperation.

3. Analytical Framework

3.1. Setup

We use game-theoretic tools to model the rivalry between two states and the role privateering plays in the conflict (Grossman and Kim, 1995; Hirshleifer, 1995, 2001; Skaperdas, 1992). We first outline the conflict *between* two states and then model the strategic interaction between merchants and government *within* each state.

The game between states has two players. In each state, merchants own private assets and produce output through trade between states. Each state has to decide how many of the resources are invested in productive trade, defense activities (e.g. the navy) in a potential conflict, and aggression against the rival state (through privateering and the navy). If one side invests in defense and the other in offense, a “technology of conflict” determines who gets to keep the productive assets. Since trade produces the largest economic gains, it would be optimal for each state to have merchants employ all their resources in trade (first-best solution). However, this is not a Nash equilibrium because each state then has an incentive to invest in aggressive resources and expropriate the merchants of the rival state. The game thus has the structure of a Prisoner’s Dilemma. In equilibrium, each side spends as many resources on defense as the other invests in offenses. The amount of aggression and trade lost by each state depends on the parameters of the trade production function and the technology of conflict.

Within each state, the government decides how much to invest in defense and aggression. Defense activities are supplied by the navy. The potential for aggression in contrast is determined by both the navy and privateers. The latter are supplied by

merchants. While the cost of privateering is lower relative to the navy, it also takes resources away from productive trade. One of the implications of the model is that states with lower gains from trade will invest relatively more in aggressive assets. Therefore, states invest more in aggression through privateering during periods of conflict for two reasons: compensate merchants for their losses in productive trade and increase the aggression potential against the enemy.

Though highly stylized, the model incorporates two key features of privateering: first, property rights are selective because states invest in defense to enforce the property rights of their own merchants, but seek to expropriate foreign merchants through investment in aggression. Second, privateering enables the state to mobilize resources from the merchants and compensate them for lost trade opportunities during conflicts. Finally, the framework allows us to analyze both the persistence of privateering and the conditions under which it is abolished.

Elements of analytical framework:

1. *International Conflict* (Macro): Rivalry between two states = lateral relation.

Similar to predatory pricing models, a conflict is a competition for future benefits (monopoly) at the expense of current profits (especially gains from trade). Occurrence of conflict is derived endogenously.

2. *Mercantilism* (Macro): gains from international trade arises solely from exporting => international trade is a zero-sum game. Two strategies: first, by promoting trade of their own merchants. Irwin (1991) draws a nice comparison between recent strategic trade policy in international trade models with imperfect competition and the policy of the Dutch government in the Anglo-Dutch rivalry for the East India trade. Second, by actively disrupting or even destroying trade of the enemy. This second mechanism has not received much attention. [Brander and Spencer (1985): strategic trade policy: state changes incentives for firms].

3. *Letter of Marque* (Micro): contract between state and privateer that specifies legal targets (enemy merchants) and illegal targets (neutral or own merchants). The letter of marque explicitly stated the country whose vessels can be legally captured. In addition, the ships captured had to be brought before an Admiralty Court and tried to ensure they were a legal prize. The Admiralty Court imposed heavy penalties if the property rights of

other nations had been violated. On the other side, privateers could not expect any protection if captured by the enemy.

3.2. Characterize Equilibrium

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3.3. Comparative Statics and Predictions

By varying the parameters of the technology of conflict and the trade production function over time, we can determine how strategic investments change within as well as between states to the point where investment in privateering is zero (comparative statics).

Prediction:

We expect the profits of privateers to depend on the strength of both (!) navies and alternative business opportunities for merchants.

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4. Data and Descriptive Evidence

4.1. Macroeconomic Data

From Starkey (1990), we compiled monthly counts of letters of marque commissioned to British privateering ships and associated numbers of crew members during the period 1702-83. From Bromley (1987), Crowhurst (1977), and Villiers (2000), we have derived a database containing the number of letters of marque issued during successive wars from 1702 to 1815, the number of privateering vessels, their tonnage and prize captures for each major English port. For French privateering during 1793-1815, the electronic database deposited by Crowhurst (1988) includes the names of privateering ships, letters of marque issued, the names of captains and managing owners, the ship's home port, tonnage, number of guns, crew size, the year of cruise and whether it was captured or not.

Kohn (1999) and Levy (1994) provide extensive information on all European wars during our period of interest, including onset, duration, intensity, and parties involved. Comprehensive data pertaining to the strength, recruitment, finance, and formal organization of eighteenth-century navies are provided in Baugh (1965), Cormack (1995), Glete (1993), Gradish (1980), Lewis (1960), Pritchard (1987), and Rodger

(1986). We are primarily interested in annual numbers of crew, number and size of ships employed and lost, and budget devoted to the navy.

Eighteenth-century shipping production, annual average voyages, profit estimates and annual trade volume (in currency and tonnage) for major European ports, regions and countries is coded from Bulbeck (1998), Chaudhuri (1978), Davis (1962), Deane and Cole (1967), de Vries (2003), de Vries and van der Woude (1997), Delumeau (1966), Glamann (1974), Inikori (2002), O'Brien (1982), O'Rourke and Williamson (2002), Phillips (1990), Prakesh (1998), Richardson et al. (1992), Steensgaard (1974; 1990), Tracy (1990) and Truxes (1988). Following Acemoglu et al. (2005a,b), we also consider the extent of urbanization as an aggregate indicator of wealth in central privateering ports, using urban population data at city levels from Bairoch, Batou, and Chèvre (1988), Bairoch (1988), and de Vries (1984). Data on GDP is taken from Maddison (2001).

4.2. Privateering in Bristol and Saint-Malo

In addition to the macro-level data described above, we compiled systematic data on individual privateering cruises from two exemplary ports: Saint-Malo in France and Bristol in Britain. Both ports were among the most active centers of French and British privateering enterprise (Bromley 1987; Crowhurst 1989; Starkey 1990).

The data for the analysis of Saint-Malo privateering reported below are derived from several published sources (Benaerts 1914; Lespagnol 1990; Robidou 1919). We compiled detailed information on 329 privateering voyages from 1793 to 1815, including the names of the captain, managing owner(s) and investors, the date of sailing, the name, tonnage, and equipment of each vessel, the pay for crew members and costs of equipment, the prize ships taken, their characteristics, port of origin, and value.

We have also collected matching data on 631 English privateering ventures from Bristol during 1702-1813 from published records (especially Powell 1930). They include the name of the captain, managing owner(s) and investors, the date of sailing, and the name, tonnage, and equipment of each vessel as well as the names of captured prize ships. Both data-sets are detailed enough to estimate profits from privateering.

4.3. Descriptive Evidence

Table 1 reports equipment characteristics of privateering vessels for our data on French privateering enterprises between 1793 and 1815. Panel A presents averages of ship size (in tonnage), crew number, age of the vessel, and weaponry. Panel B compares these characteristics before and after 1802, the end of the War of the Second Coalition against revolutionary France and right before any ambitions of the French navy are shattered by the Royal Navy. The fleet in the second period is younger, but the main difference is the decreased size of vessels in terms of tonnage and crew after 1802. This result supports evidence from extant historical research that seamen on French navy ships were at a high risk of being captured by English ships (@refs.). Finally, panel C in table 1 compares privateering vessels in the four main regions. Atlantic coast privateers include vessels departing from ports like Nantes, La Rochelle, Bordeaux and the Basque country and were also known as deep water privateers. West coast refers to ships based in French ports along the Channel, including Saint-Malo and Dunkerque. The Mediterranean coast includes ports such as Marseilles and Toulon. These results clearly show that the largest and best equipped and armed privateering vessels were based in typical West Coast Channel ports like Saint-Malo. Further evidence, which we examine in greater detail below, suggests that Saint-Malo was also a major French fishing port. Consequently, a sizeable fleet well equipped for deep water privateering cruises was readily available (cf. Lespagnol, ch.7). This competitive advantage may also account for the observation that on the average, ships based in Atlantic ports were on average much smaller in terms of tonnage and crew size compared to Channel ports. Atlantic coast privateers were also smaller than their counterparts in the Mediterranean, but they boasted a better equipped weaponry, on the average.

Table 2 relates corresponding evidence on equipment and manning for our two focus ports, Saint-Malo and Bristol. Even taking the different time spans into account, Bristol privateering vessels were clearly larger, had more guns, and larger crew sizes than their Saint-Malo counterparts. In what follows, we present further evidence on the economic performance of British and French privateering enterprise. We pay particular attention to the overall rise and fall of privateering, which is largely driven by recurrent military conflicts between states, and provide first estimates of the profitability of state-sanctioned commerce raiding.

5. Results

Our empirical analysis proceeds in two steps: first, we trace to what extent the incidence of privateering fluctuated over time using time series of commissions of British and French letters of marque. Second, we analyze the profitability of privateering, and how it compares to alternative business opportunities during wartime. Because privateering diverts resources from productive trade, the aggregate economic effects of privateering at sea are expected to be negative. Consequently, we also evaluate the direct and indirect costs of privateering for economic performance. Third, we account for the performance of privateering over time, especially what factors might have led to its eventual demise by the early nineteenth century.

5.1. Incidence of Privateering

Our central argument is that privateering is a selective property institutions. It is selective to the extent that only members of a select group - domestic merchants - are licensed to raid commerce traffic of a select group, namely ships of countries specified as enemies. Since countries declare others as enemies in military conflicts the number of letters of marque being issued is expected to increase at the onset of war. Our period of interest entailed several major wars involving both Britain and France: the War of the Spanish Succession (1701-1713), including its American phase known as Queen Anne's War (1702-1713), the War of the Austrian Succession (1740-1748), including the Anglo-French inconclusive American colonial conflict also known as King George's War (1744-1748), the Seven Years War (1756-1763), including the French and Indian War between Britain and France over the American colonies (1754-1763), the American Revolutionary War (1775-1783), and finally the French Revolutionary and Napoleonic Wars (1793-1815).

Figures 2 and 3 on Bristol and French privateering, respectively, provide evidence for the expected business cycles of privateering that correspond closely to the outbreak of war. This comparison is of course somewhat limited by the fact that it partly relates figures from a single British port over the course of the entire eighteenth century to those from all French ports during a much shorter period (1793-1815). However, even considering these scope conditions, the series clearly reveal that the timing and incidence of privateering followed an opportunity structure shaped by the onset of

military conflicts between Britain and France. Figure 2 shows that the number of letters of marque issued to Bristol privateers peaked during all major conflicts such as the Spanish succession war, the Austrian succession war, the Seven Years War, the American revolutionary war, and the beginning of the French revolutionary wars. By contrast, during extended periods of peace such as that under Walpole (1721-1742), the number of privateers licensed was negligible. The trend is parallel for French privateers, even in the much shorter period of the Revolutionary and Coalition wars and the Napoleonic wars as shown in figure 3. Here similar business cycles of privateering are patterned by the successive coalitions against France and Napoleon's campaigns. Overall numbers of French privateering cruises peaked during the First and Second Coalition until the Treaty of Amiens (1802), and then increased again with the Napoleonic wars between 1803 and 1815. While on a different scale, the pattern of voyages sent from Saint-Malo closely mirrors the aggregate series for French ports at large. The only notable exception is a dent in the years 1808 through 1812. As this descriptive evidence shows, Saint-Malo privateering represents an exemplary case for analyzing French privateering enterprise in more detail during our period of interest.

Taken together, these results confirm the expectation that merchants preferred to invest in privateering ventures during times of war, and especially at the outbreak of conflicts. From a legal perspective, war seems necessary for specifying whose commerce was to become a target for raiding. Perhaps more important, privateering also contributed privately sponsored vessels to the official navy at little cost for the government, and it gave rise to new opportunities for merchants whose regular trade business was seriously undercut by ongoing military conflicts. Hence, it appears that governments as well as their merchant elites profited from this arrangement. In what follows, we will focus on the profitability of privateering for merchants: is there evidence that commerce raiding offered a profitable substitute for regular trade when the latter is difficult to pursue?

5.2. Profitability of Privateering

Contemporary sources state that over 11,000 British merchant ships were lost to French privateering raids during the Revolutionary and Napoleonic Wars (Crowhurst 1989). Even though this scale of privateering was likely to be overestimated it nevertheless led

English merchants to demand better protection of their ships by the Royal navy. Figure 4 illustrates the deterrence effect resulting from increased navy size using estimates of the total battle tonnage of the Royal navy versus the number of privateering vessels sent out from Saint Malo over the entire period 1702-1815. Once again noticeable is the rise of commerce raiding at the beginning of each successive conflict. While battle tonnage arguably is a rough measure of navy strength, the estimates nevertheless reveal a crisp pattern: over time, the number of Saint-Malo privateering vessels visibly declined in relation to an increasing overall tonnage of the Royal navy. While not conclusive, this evidence suggests that the strength of the British navy had a deterrence effect on French privateering and markedly reduced its activities.

British merchants were not the only ones demanding protection. Their French competitors were equally exposed to the risk of losing their vessels and cargo to British corsairs preying on them. Consequently, one would expect a similar demand by French overseas merchants for protection by their own navy and a resulting deterrence effect similar to the British navy. Using the estimates from Bristol privateering, figure 5 shows that the French navy was not as successful in achieving this goal compared to their British counterparts. The time series compares the average number of vessels sent out from Bristol during each successive war to the annual number of French navy ships over the entire period. Two results emerge from this comparison. First, in all periods of war, privateers from Bristol alone outnumbered the entire French navy. Second, following its decrease in the first two decades of the eighteenth century, the French navy varied little in size; and whatever small changes did occur were clearly unrelated to any variation in the number of Bristol privateering ships.

These preliminary results suggest that on the French side at least, privateers contributed more successfully to the war effort than the regular navy. Yet, the evidence also implies that the capture of a vessel by the British navy added significantly to the costs of the French privateering business. During the Revolutionary and Napoleonic wars (1793-1815), for instance, about 28% of all French privateering ships were captured by the British. Losing one's ship to the enemy meant losing the ability to capture prizes, an unwilling increase of the size of the enemy's fleet, and it certainly was a major loss of investment. Available micro-data on Saint-Malo privateering during 1793-1815 offer a good insight into the scale of this investment. The median cost in this

period amounted to 40,000 francs, enough to fit out a 72-ton ship, staffed with a crew of 52 seamen, and eight guns, on the average. Since ships and their equipment were valuable, the profitability of each privateering cruise depended not only on capturing many valuable prizes, but also on not getting captured by others. Saint-Malo privateers lost about 35% of their ships to the British during 1793-1815.

The most immediate protection of this investment against seizure by enemy ships was offered through good equipment and manning. In general, ships rarely engaged in sea fights with opponents whose firepower and manpower was evidently superior. To illustrate the role of equipment and manning, table 3 reports means comparisons for captured and non-captured French privateers. The evidence clearly shows that weaponry did not make much of a difference in preventing capture by enemy ships. What did make a difference were the size and age of the ship and the size of its crew. On the average, captured privateering vessels were significantly smaller, older, and had fewer seamen on board. Keeping one's ship from the enemy played an important role in making privateering profitable. Consequently, these results suggest that making higher investments to outfit larger and newer ships, staffed with a sizeable crew increased the probability of making a profit from privateering by decreasing the risk of being captured.

Protecting one's ship thus is a necessary condition to ensure the ability to seize prizes. But how valuable exactly were prizes, and were they worth the investment compared to returns from regular merchant trade? In order to estimate the profitability of privateering and compare it to returns from legal trade, we use micro-data on privateering voyages and income from merchant trade collected from Bristol and Saint-Malo. The existing evidence in the literature is scarce. With our data, we can provide a more accurate calculation of the profits from privateering during war relative to legal trade in periods of peace. Using microeconomic methods to adjust for selective samples, we employ regression analysis to estimate the determinants the profitability of privateering. This involves two dependent variables: first, the size of profits conditional on having captured a prize and second, the probability of capturing one, but not being captured by the enemy. We ask if profitability is driven by characteristics of the ship (size, tonnage, number of guns), the skill of the captain (years of experience and the routes chosen, among other indicators), the home port of the ship, the volume of trade, the intensity of armed conflict or the strength of both navies? We then use our data on

office holding to measure to what extent profits from privateering are correlated with appointments to office as a form of royal patronage.

5.3. Direct and Indirect Impacts on the Broader Economy

The second focus is to analyze the impact of privateering on the economy. To this end, we relate the microdata on privateering voyages to aggregate data on urbanization, income and growth in ports of Great Britain and France. We then estimate three relationships: first, how much did privateering contribute to the growth in ports? The dependent variable is the degree of average income or urbanization in a port, the independent variables the volume of privateering in a port, measures of timing and intensity of conflict and other control variables that influence economic wealth. The second relationship we analyze is whether privateering had an impact on the volume of trade or the trade routes chosen. The dependent variable in this case is the overall volume of trade or a specific route, and the independent variables are the overall volume of privateering, indicators for periods and intensity of conflict, and additional controls. Using these relationships, we will also test whether privateering and conflicts inflicted more harm on the French or on the British side.

With the two sets of estimates in hand, we can give a more accurate and detailed assessment of the direct and indirect costs of privateering than previous studies. The direct net costs consist of the estimated impact on enemy trade minus the profits of enemy privateers. The indirect costs consist of increases in insurance rates, additional costs of convoy protection or defense equipment like additional guns on board. Their sum gives us a more accurate estimate of the damage to the economy by privateering than previously available.

5.4. The Decline of Privateering

After the Napoleonic wars British and French privateering declined significantly. Extant historical evidence suggests that privateering sponsored by other nation states experienced a similar decline. Finally, in 1856's treaty of Paris, Britain and France promoted an international ban of state-sponsored privateering, and most other nations signed the resulting declaration, the United States being a notable exception (@ refs.).

Why was privateering abandoned if privateering did indeed contribute substantially to the navies' strength, generate economic profits, and offer an effective political tool to bind the rising merchant elite to the respective ruler? We evaluate four potential mechanisms that could have given rise to this change.

The first potential cause is the absence of military conflicts between the two major powers previously engaged in privateering, Britain and France. Beginning with the Crimean War of the 1850s, the first substantial war after 1815, Britain and France were allied in most conflicts that involved both countries. Hence, the opportunity structure for privateers from both countries had changed. Without war between them, no letters of marque were to be licensed. This development may well account for the decline of French privateering against British merchants, and vice versa. Yet, it obviously provides little explanation why other countries should abandon privateering as well, nor why British and French privateers should not prey on other countries' merchant ships instead. The continued promotion of state-sponsored commerce raiding by the United States is only the most prominent case among others.

A second, and more compelling argument points to the rise of professional navies and their relative productivity compared to privateers. For example, the majority of ships in royal service in Elizabethan England were privately owned and equipped (Andrews 1964, 1984), whereas a specialized professional British navy emerged by the eighteenth century at the latest (Baugh 1965; Brewer 1990; Duffy 1980; Glete 1993; Rodger 1986). Beginning already in the seventeenth century, the main transformations involved formalized recruitment, promotion and career paths, standardization of equipment and ship design, and the creation of a bureaucratic organization. The navy's superior organizational structure turned it into a more efficient and effective instrument for naval warfare compared to the more ad-hoc nature of privateering mobilization. If the navy performed better (or cheaper) in conflicts, states would find it also beneficial to substitute away from privateering. Likewise, a well organized and functioning naval force had the added political benefit of wresting the use of legitimate violence from private ventures and securing its monopoly in the hands of state-building governments.

As discussed above, the French navy barely existed in the second half of the eighteenth century, due to a series of major losses and weak financial support. The small size and dwindling strength of its regular navy made it almost inevitable for French

governments to rely increasingly on private initiatives. While Britain relied on privateers as mere supplements to its navy, French privateers were the navy (Thomson 1994). Consequently, the substitution of privateering by regular naval forces by the late eighteenth and early nineteenth century should have been most evident in the British case. To illustrate their relative success, figure 6 compares the number of prizes taken by privateers and the Royal navy up until the 1790. The resulting series suggest that the navy did not consistently outperform privateering cruises in seizing prizes, at least not in this period. Comparative numbers for the years after 1815 are lacking due to obvious selectivity on the privateering side. Yet, these results illustrate that privateering was still successful throughout most of the eighteenth century. At this point in time, the navy was apparently not competitive enough yet to render privateering obsolete. A closer look at the privateering activity in particular ports, however, reveals that an expansion of the navy reduced the promotion of privateering. Figure 7, for example, shows that the number of privateering licenses decreased with increasing size of the British battle navy, measured in terms of tonnage. This evidence suggests that the professionalization and growth of the navy, while certainly not the only cause, nevertheless contributed substantially to the decline of privateering.

A third reason for this decline may be attributed to the larger institutional transformation whereby the idea of free trade superseded the mercantilistic doctrine. On a practical plane, as gains from trade rose, it became increasingly costly to engage in privateering since it diverted resources away from productive trade. Historically, as mercantilism gave way to the concept of free trade (Irwin 1996), it became evident that privateering was harmful to the expansion of international trade and economic growth (Swanson 1991; Thomson 1994). Once trade was viewed as a positive-sum game for all states, privateering became little different from illegal piracy, and states had little reason to continue sponsoring it.

Finally, the fourth potential mechanism is rooted in the use of privateering as a political instrument in the hands of government to ensure the loyalty of the merchant elite. In this sense, privateering is similar to the institution of patron-client networks that bind local elites closely to national elites and state-builders. Granting letters of marque and the right to raid foreign property to a select group of locally based merchant elites is functionally equivalent to patronage. What changes this arrangement politically, and

eventually makes privateering less attractive as a selective political tool is a shift in elite alliances and conflicts such that merchant elites in power no longer depend on royal patronage in the form of privateering licenses.

6. Implications and Conclusion

Organized crime is of major concern to the public interest. When studying criminal behavior, the social science literature commonly has focused on the question whether government enforcement deters illegal behavior or not (Becker 1968; Gathmann 2004; Levitt 1997; McCarthy 2002; Nagin 1998). Yet very little is known about the opposite case explored in this project: that states often rely on and encourage illegal activities to further their own interests. Our study draws inferences from a particular substantive context: how commerce raiding by private means, typically the expertise of pirates, was transformed into state-sponsored activities. Yet findings from our research have clear implications for social science research and policy decisions on contemporary state-sponsored violence, including but not limited to terrorism.

Likewise, we expect the study of selective enforcement of property rights to be highly relevant for a deeper understanding of transition societies that experience a renewed process of state-building. The experiences of Russia and other transition and developing countries reveal that institutions matter, especially those enforced by the state. Their experience also shows that these societies are far from exhibiting consolidated and centralized governance structures, but are in the midst of state-building processes wherein government agents still have to rely on particularist interests for support. More often than not, selected enforcement of property rights appears to be the consequence. Although developed on the basis of a different setting, this project is a first step towards a more general model of property rights. We believe that such a general account has clear policy implications for strategies that aim at shifting an inefficient partial provision of property rights as seen in many developing or transition countries to full security of property rights and contract enforcement.

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Appendix A: Data Sources and Construction of Variables

The data for Saint-Malo is derived from published sources (Benaerts 1914; Lespagnol 1990; Robidou 1919). They provide detailed information on 329 privateering voyages from 1793 to 1815, including the names of the captain and officers, managing owner(s) and investors, the date or season of sailing, the name, tonnage, and equipment of each vessel, the pay for crew members and costs of equipment, the prize ships taken, their characteristics, port of origin, and their value. Additional archival sources:

(a) Alphabetical records on the sale of prize ships taken by French privateers are contained in Series FF^{2bis} and FF² at the *Archives Nationales* in Paris.

(b) The *Archives Municipales* in Saint-Malo preserve parish records on microfilm for the entire period (1700-1814) and local tax records for the years 1701, 1725, 1726 and 1762 in series CC41-46. Probate inventories for Saint-Malo (1700-1790) are held at the *Archives Departementales d'Ille-et-Vilaine* in Rennes (series B, 4Bx). These data will permit us to measure how profits from privateering compared to profits from trade, and how privateering was organized from within the commercial and kinship networks of the local merchant elite.

(c) The *Archives de la marine* in Brest preserve muster rolls for French navy inscriptions from the region including Saint-Malo for the years 1701-1792 (series PC⁶). These data will allow us to evaluate the extent of competition between the French navy and privateers for able seamen.

We also collected matching data on 631 English privateering ventures from Bristol during 1702-1813. We compiled these data from published records (most notably Powell 1930). They include the name of the captain and officers, managing owner(s) and investors, the date or season of sailing, and the name, tonnage, and equipment of each vessel as well as the names of captured prize ships.

Additional sources from the British National Archives in London (Kew):

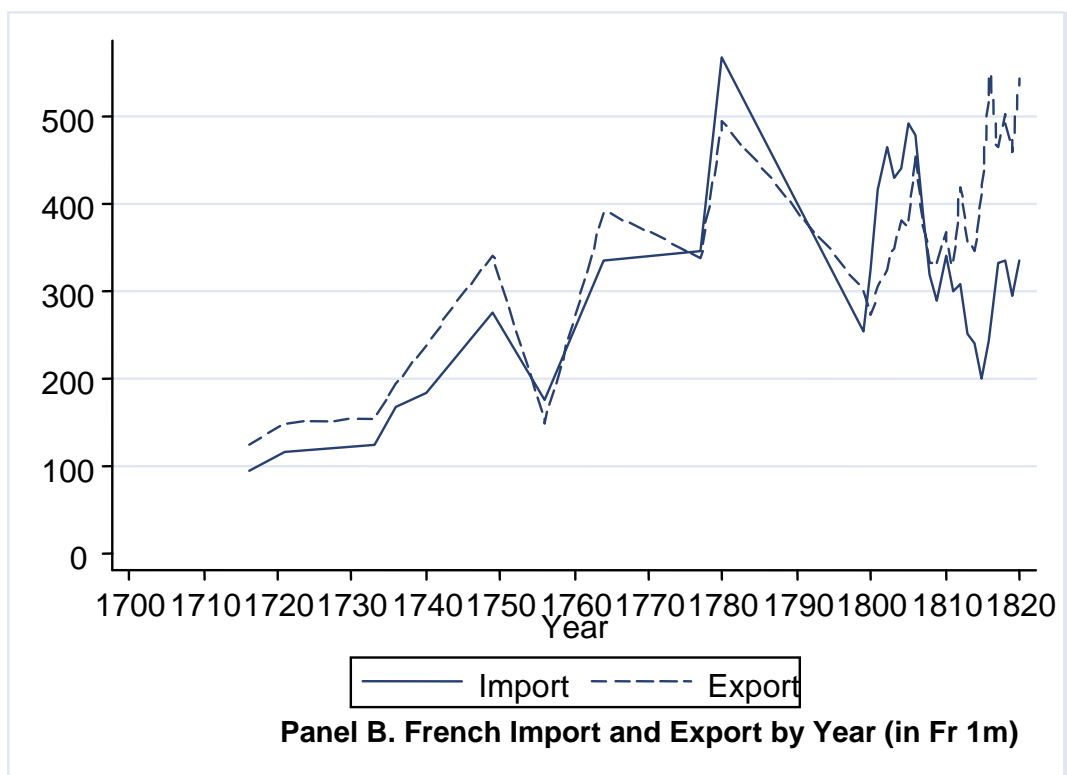
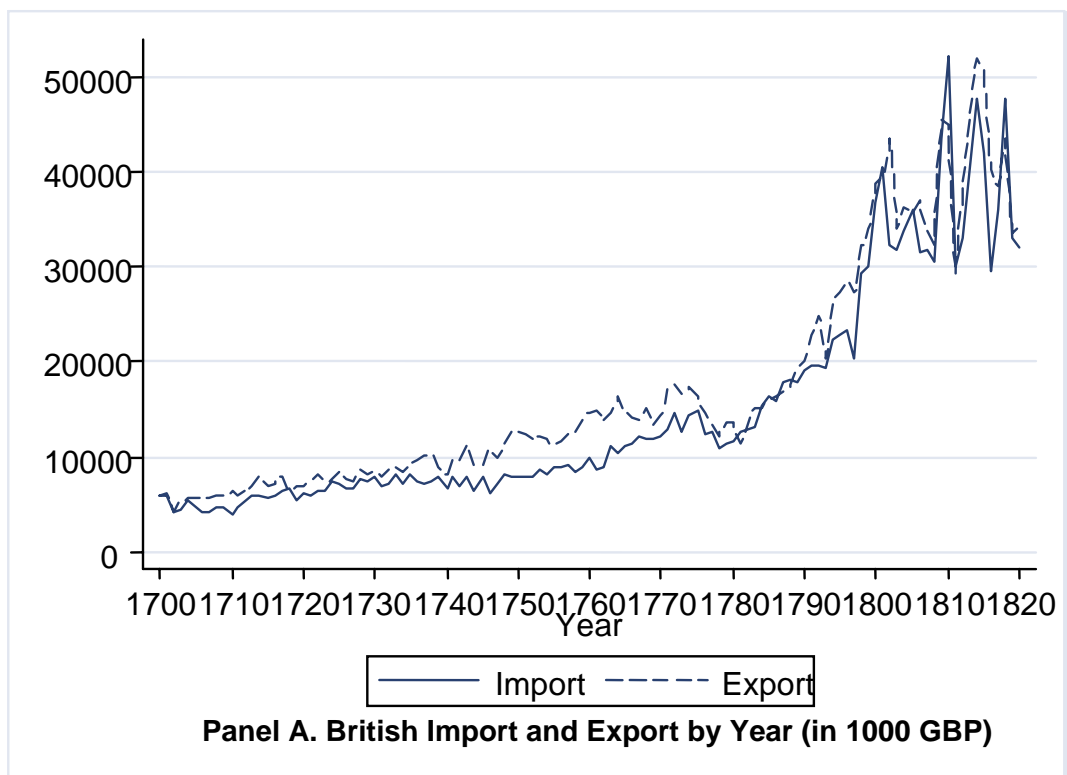
(a) Series HCA 26 contains the letter of marque declarations commissioned in the High Court of Admiralty for the period 1689-1808, including data on privateering ships, its home port, tonnage and armaments, officers and crew. Series ADM 7 contains additional information on letters of marque commissions for the years 1777-1815.

(b) Series HCA 32 of the High Court of Admiralty assembles Prize Court records, including data on accounts of sales of individual prize ships captured by English

privateers, inventories, characteristics of prize ships, ports of origin, and letters of marque. The records are sorted by successive periods of war, 1702-33, 1739-48, 1756-63, 1775-83, and 1793-1817. Within periods the series is sorted alphabetically by the names of prize ships allowing us also to systematically identify prize ships captured by Bristol privateers contained in the dataset described above.

(c) Series BT 98 contains muster rolls for seamen from 1747 onwards. The records are sorted by ports of registry, and include names and addresses of seamen, dates of engagement and discharge and the name of their previous ship. We will employ these to estimate the extent of local competition between private men-of-war and the navy. To identify appointments to national and local offices for individual privateers in our datasets, we employ British and French national biographical dictionaries (Matthew and Harrison 2004; Nappo and Davy 2001; Taillemite 2002).

Figure 1.—Trade and Conflict: Britain and France during the eighteenth century



*Note: The French *franc* was for administrative purposes only and equal to the *livre tournois*. For comparison, 1 British pound was exchanged at roughly 23 *livres tournois* in 1780.

Figure 2. Bristol letters of marque issued, 1702-1815

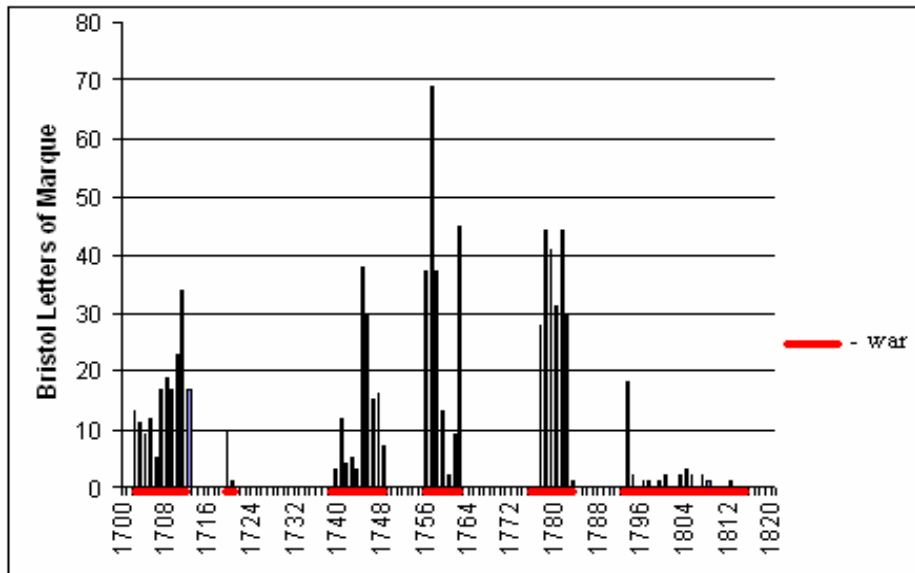


Figure 3. French privateering cruises, all ports and Saint-Malo, 1793-1815

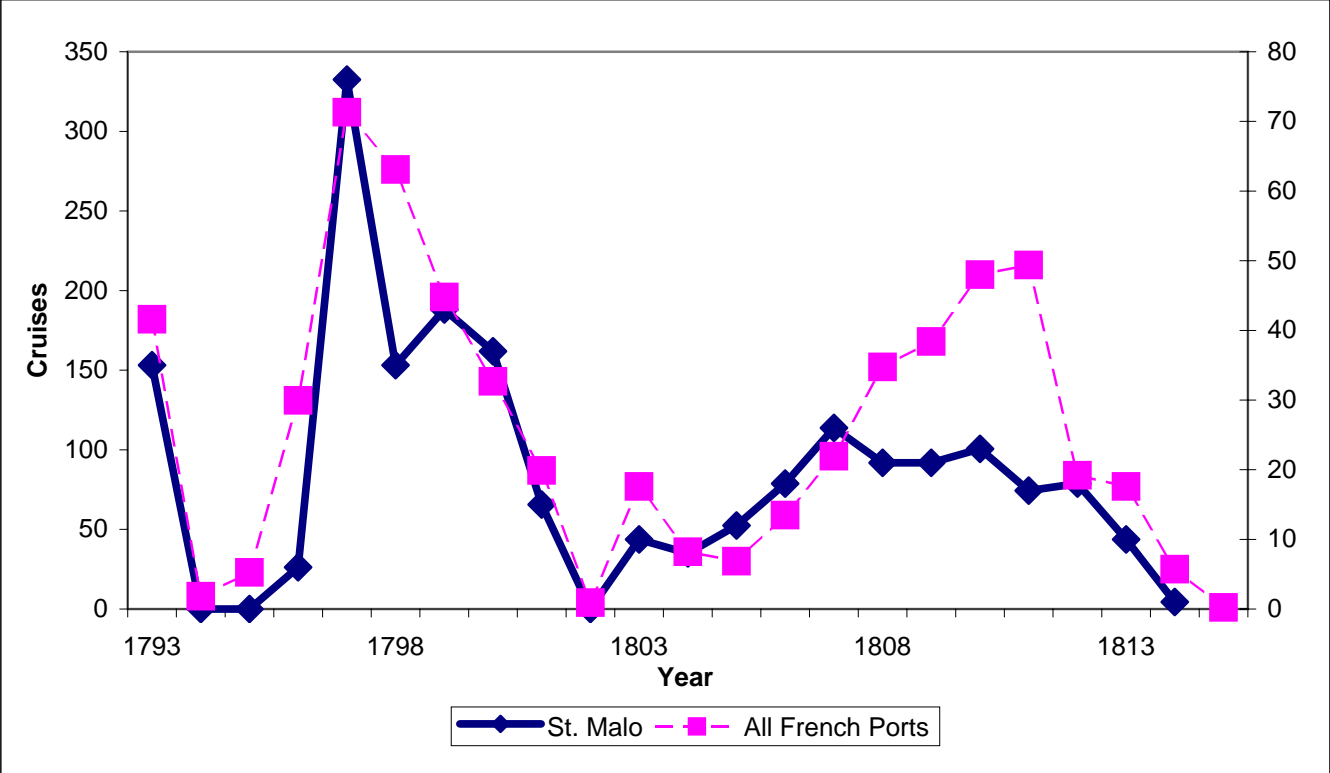


Table 1. Equipment of French Privateersmen, 1793-1815

Panel A: All ports

Variable	Obs	Mean	Std. Dev.	Min	Max
tonnage	1622	90.17	100.91	0	948
crew	1896	56.91	43.02	0	500
Year built	599	1802.48	7.72	1762	1813
canons	1532	10.26	6.62	0	98
swivel	310	3.87	2.04	0	9
carron	112	4.04	2.68	0	9

Panel B: Changes over time

French Privateers, 1793-1802

tonnage	1042	94.77	112.71	1	948
crew	1149	58.62	48.86	1	500
Year built	226	1794.80	5.72	1762	1803
canons	901	10.28	7.14	0	98
swivel	239	4.05	2.09	0	9
carron	25	2.40	1.66	0	8

French Privateers, 1803-1815

tonnage	579	82.02	74.58	0	550
crew	739	54.12	31.39	0	221
Year built	373	1807.13	4.31	1781	1813
canons	628	10.21	5.77	1	32
swivel	71	3.24	1.75	0	8
carron	87	4.51	2.74	1	9

Panel C: Regional comparison

French Privateers, Atlantic coast

tonnage	790	64.57	64.26	0	800
crew	916	45.04	31.60	1	500
canons	763	9.05	6.73	0	98
swivel	142	3.44	2.04	0	9
carron	65	3.83	2.48	0	9

French Privateers, West coast

tonnage	687	120.46	122.05	1	657
crew	794	70.41	49.39	0	260
canons	628	12.48	5.96	1	32
swivel	134	4.37	1.83	1	9
carron	40	4.28	2.97	1	9

French Privateers, Mediterrean Coast

tonnage	64	98.63	144.70	0	948
crew	41	53.10	34.05	14	132
canons	40	4.05	3.62	1	18
swivel	10	2.40	2.01	1	7
carron	3	6.00	0.00	6	6

Privateers, port of origin in foreign country

tonnage	44	58.14	39.65	3	165
crew	62	44.52	23.46	4	100
canons	60	7.42	5.30	1	17
swivel	12	3.67	2.64	1	9
carron	4	3.50	3.70	1	9

Table 2. Equipment of Privateersmen from Saint-Malo and Bristol

	Vessels	Mean	Std. Dev.	Min - Max
<i>Saint-Malo, 1793-1814</i>				
Tonnage	239	92.39	93.06	6 - 450
Crew	232	59.76	40.77	10 - 222
Guns	163	11.13	5.67	1- 24
<i>Bristol, 1702-1815</i>				
Tonnage	808	203.92	99.05	30 - 600
Crew	752	68.41	56.93	6 - 340
Guns	786	15.79	5.77	2 -36

Figure 4. Deterrence effect of Royal Navy

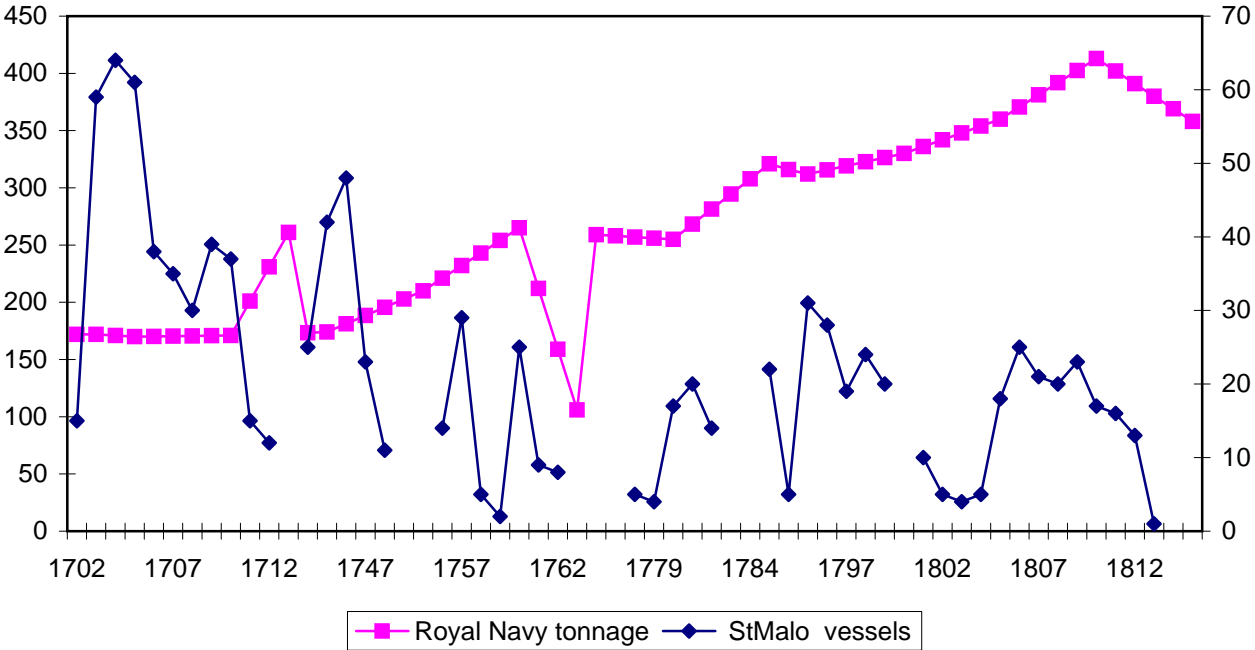


Figure 5. Deterrence effect of French navy

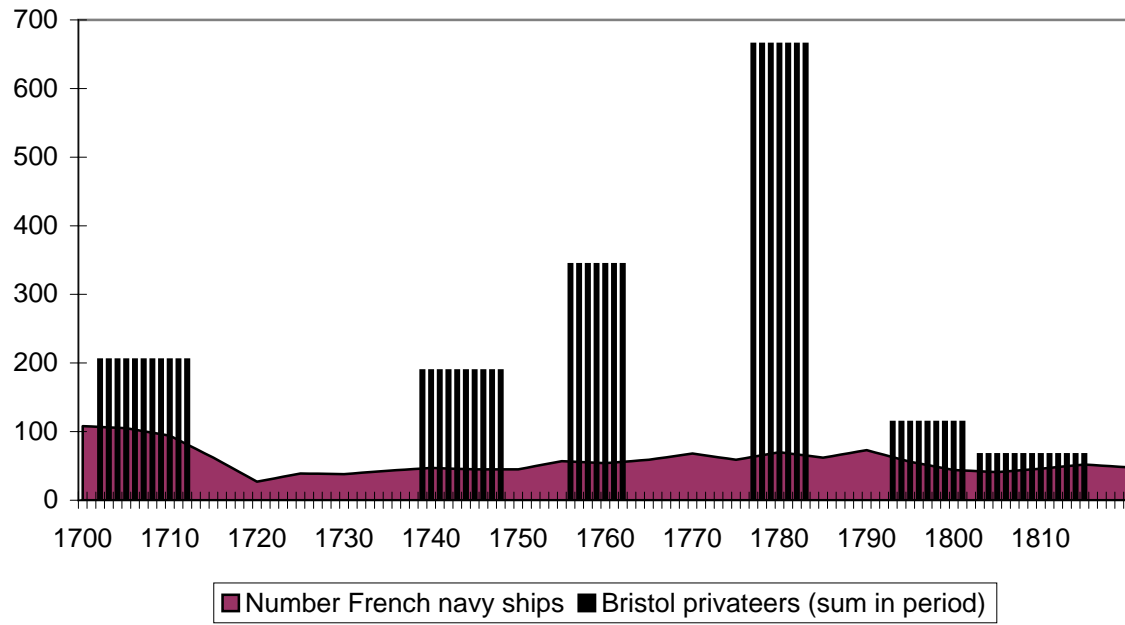


Table 3. Determinants of capture by enemy's navy

French privateers captured, 1793-1815						French privateers, not captured, 1793-1815						
	Obs (vessels)	mean	sd	min	max		Obs (vessels)	mean	sd	min	max	T stat diff
tonnage	641	102.17	105.74	4	800	tonnage	971	82.00	96.41	0	948	-3.9545
crew	675	62.75	48.04	8	500	crew	1213	53.64	39.62	0	260	-4.4333
year built	217	1800.81	8.38	1762	1813	year built	377	1803.42	7.13	1778	1813	4.0247
canons	581	10.40	6.15	0	34	canons	942	10.17	6.90	1	98	-0.6549
swivel	125	4.14	2.28	0	9	swivel	185	3.68	1.85	0	9	-1.9662
carron	37	4.08	2.69	1	9	carron	72	4.04	2.74	0	9	-0.0715

Figure 6. Prizes Taken by British Privateers vs. Royal Navy, 1702-1785

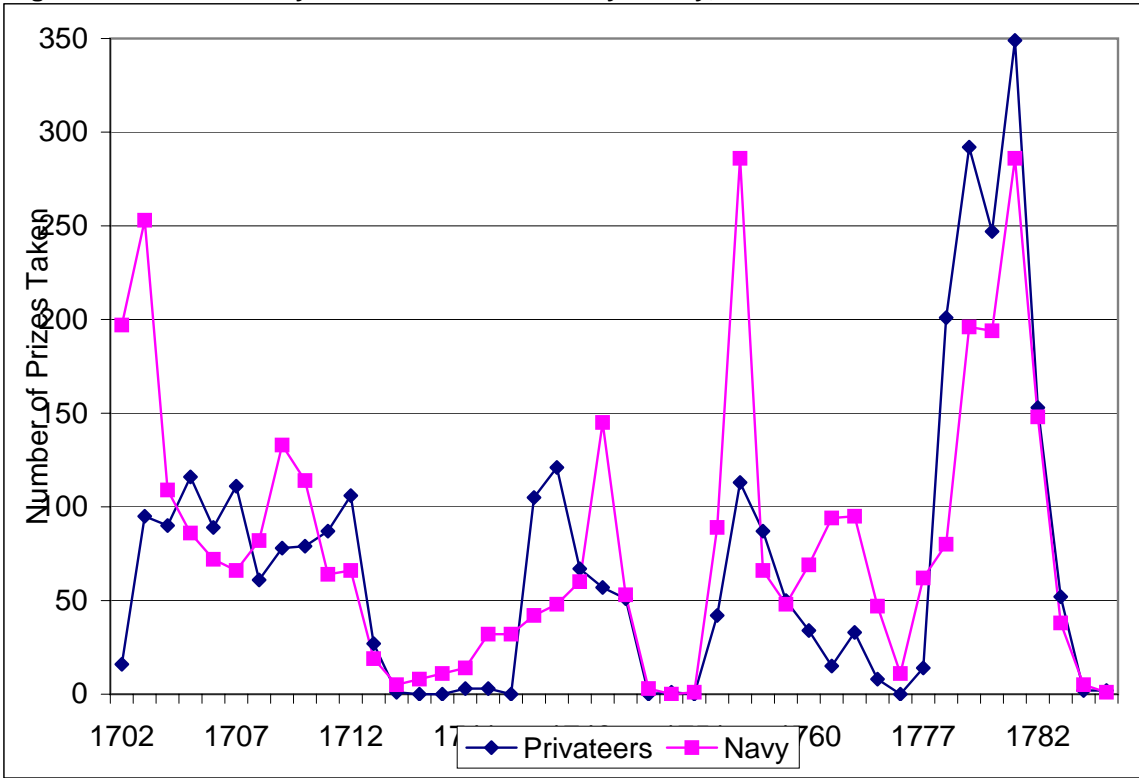


Figure 7. Effect of growing navy force on promotion of privateering

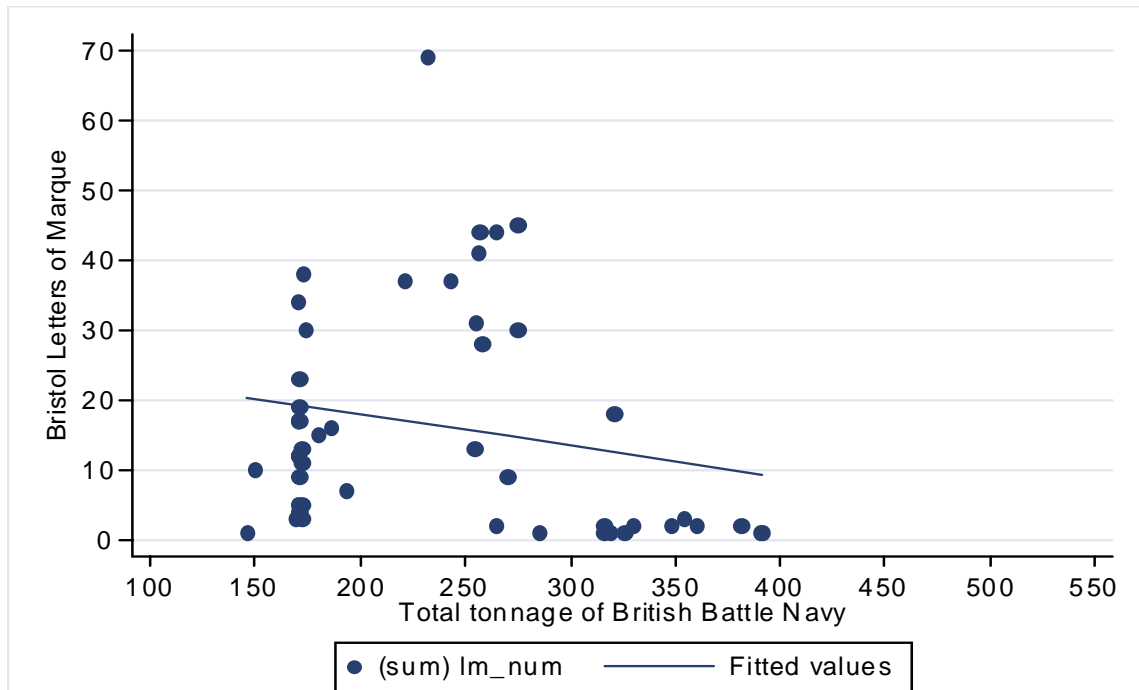


Figure X.