Peter T. Leeson, *The Invisible Hook: The Hidden Economics Pirates*, New Jersey: Princeton University Press, 296pp., $24.95 (cloth)

There is a long-standing fascination with pirates. Amusement parks boast pirate-themed rides, and blockbuster movies attract viewers of all ages, as evidenced by the multi-billion dollar *Pirates of the Caribbean* franchise. When most people think of pirates, they tend to think of Blackbeard and other motley miscreants, the Jolly Roger flag, parrots, and peg legs. However, after reading Peter Leeson's extremely well-researched and well-written book, *The Invisible Hook*, the reader realizes that there is much more to pirates than what is captured in the common stereotypes. Leeson applies the economic way of thinking to understand the behavior of pirates during their heyday in the seventeenth and eighteenth centuries. The economic way of thinking is grounded in rational choice analysis, which assumes that self-interested people respond to changes in incentives (i.e., to changes in costs and benefits tied to particular behaviors). Economics provides the lens through which Leeson provides clarity to the mystique surrounding a variety of pirate behaviors. As it turns out, pirates, which many view as irrational, actually pursued rational behaviors that maximized their profits while minimizing risk.

The Invisible Hook consists of an introduction, six main chapters, a conclusion, epilogue, and postscript. The Introduction lays the foundation for the rest of the analysis. The book's title is a clever play on Adam Smith's notion of the invisible hand, which is the driving force facilitating economic cooperation. The central idea behind the invisible hand is that the pursuit of individual self-interest improves the welfare of others through mutually beneficial cooperation. Leeson's notion of the invisible hook seeks to extend Smith's logic to understanding cooperation within pirate organizations. While pirates are typically viewed as savage brutes, their operations required significant cooperation. Leeson is careful not to take the parallel too far. He notes that the invisible hook is more narrowly focused on cooperation within pirate societies, while Smith's invisible hand focuses on cooperation within society at large. Further, the invisible hook focuses on criminal behavior and was, therefore, zero or negative sum. An increase in the wealth of pirates came at the expense of a victim who was made worse off. This is different than Smith's invisible hand, where the welfare of all parties to a transaction is increased. Leeson's point is that the economic way of thinking, grounded in the rational choice framework, can provide insight into the operation of pirate societies and, specifically, how cooperation emerged where it would be least expected—among some of the worst criminals.

The second chapter explores the economics of pirate democracy. Leeson shows how pirate ships were one of the earliest forms of constitutional democracy. Pirate ships faced the "paradox of power" that exists in all societies with governance structures. In general, the paradox is that government actors need to be simultaneously empowered and constrained so that they do not abuse the powers bestowed upon them. As criminals, pirates acted outside the law and, therefore, had no means of seeking retribution if captains took advantage of crew members and abused their power. In order to overcome this paradox, the democratic organization of crew ships emerged, including a system of checks and balances which aligned the interests of the captain with interests of the broader pirate crew. Each pirate had one vote, and crews could dispose of captains if they failed to fulfill their required duties or abused their power. Further, captains received few special privileges and were largely on equal footing with other members of the crew in terms of pay and accommodations. By creating a largely egalitarian structure, pirate crews provided a disincentive for captains to abuse their power. Finally, the quartermaster, who was also elected by the crew, served as a check to monitor the captain's behavior and ensure that powers were not being abused aboard the pirate ship.

Chapter three continues with the analysis of the organization of pirate ships by delving into the structure of pirate constitutions. These constitutions included "articles of agreement," which were pirate codes that clearly stated how the captain and crew members would act under a variety of scenarios. The rules of the pirate ships were agreed upon prior to initially setting sail, and those who did not agree with these rules were allowed to freely leave the ship prior to its departure. This meant that pirate constitutions were a rare instance of unanimous consent by those who were subject to their rules. One of the most interesting insights of this chapter is that pirate constitutional democracy preceded constitutional democracy in many other parts of the world, including France, Spain, and the United States.

Chapters 4 and 5 apply the "economics of information" to pirate behavior. One of the defining characteristics of pirate ships is the skull and crossbones flag, known as the Jolly Roger. After reading Chapter 4, the reader will know the fascinating and important role played by the Jolly Roger in pirate life. It turns out that the skull and crossbones flag served as a signal that communicated information about pirates to other ships. Victim ships knew that the flag was associated with pirate ships and that if they refused to surrender, a bloody battle would ensue. The use of the Jolly Roger as a signal had two benefits. First, it increased the profits of pirates because they had to engage in fewer battles thus reducing the cost of capturing bounties. Second, the Jolly Roger benefited the victims of pirates. Given that pirates were going to raid their ship, the victims could either fight or surrender. Assuming that pirates would win a battle, it was cheaper for victims to surrender and avoid the costs of fighting. Because the Jolly Roger signaled that pirates would fight if victims did not surrender, it saved both pirates *and* victims the costs of battle.

Pirates are typically viewed as violent brutes who mercilessly tortured their victims. Leeson's analysis indicates that, in reality, pirates often turned to violence only as a last resort and worked to build their reputation for violence to, perhaps counterintuitively, avoid violence. The problem facing pirates was that their victims often had an incentive to hide or destroy booty. When this occurred, it directly impacted the profits of the pirates for the worse. Given the incentive facing victims, pirates needed to devise some mechanism for ensuring that they maximized the booty captured from their victims. Leeson shows that pirates developed a brand for insanity and brutality so that victims would be more likely to surrender their entire booty up front. Pirates preferred to avoid being brutal because time spent torturing victims to extract treasure was time not spent on pursuing subsequent victims. The best-case scenario was a quick surrender by victims so that pirates could maximize their profits. Yet another reason why pirates invested in developing their brand was to discourage government authorities from attempting to capture pirate ships for fear of violent conflict.

Chapter 6 develops the 'economics of pirate conscription.' A commonly held view is that pirates increased their crew size by conscripting, or "pressing," the members of their victim ships. In contrast, Leeson shows that the "pirate press" was actually a system developed by pirates in response to formal laws passed in the eighteenth century. In 1700, England introduced the "Act for the More Effectual Suppression of Piracy," which allowed colonies to preside over Vice Admiralty courts to try pirates on location, instead of holding jury trials according to common law. The Act also treated pirate sympathizers as accessories to piracy and stipulated the same punishment as for pirates. One defense that had a chance of working was the claim by pirates that they had been forced to work on the pirate ship against their will. If the court believed that the crew member had been conscripted, and had therefore not participated voluntarily, they had a chance to minimize, or altogether avoid, punishment. Given the increased risks of being a pirate due to the aforementioned Act, and the possibility of insulating themselves from punishment if they could convince a court they were pressed into service, pirates developed an elaborate scheme. New crew members would be treated as conscripts through a ceremony, although, in actuality, they voluntarily agreed to join the ship. Further, in order to establish a trail of evidence, pirates placed ads in major newspapers announcing the impressment of new crew members. If the pirates were ever captured and tried, they could utilize the newspaper advertisement as evidence that they had been forced to join the pirate crew against their will. The conscription scheme did not work in all cases, but when it did, captured crew members would have their punishment reduced or be set free without punishment.

Tolerance is not a characteristic that many would associate with pirates. In reality, pirates showed tolerance toward black sailors at a time when slavery was the established norm. Chapter 7 of *The Invisible Hook* develops the "economics of pirate tolerance." Many pirate crews chose to hire black crew members and subjected them to the same rules and regulations as other crew members, including providing "equal pay for equal prey." The explanation for this equality can be found through cost-benefit analysis, specifically the idea of "concentrated costs and dispersed benefits." If blacks were kept as slaves, each pirate bore the most significant cost of conscription—the threat that the slave would contribute to the crew's capture and punishment. However, given the flat pay structure on pirate ships, the benefits of holding slaves—their contribution to the overall booty captured—were relatively small because they were spread over the entire crew. Given the concentrated costs of holding slaves in the form of a higher risk of capture versus the dispersed benefits from conscription, it made sense for pirates to treat black crew members as equals instead of as conscripts.

The Invisible Hook concludes with what is, in my opinion, its most creative chapter. Leeson reviews the "secrets of pirate management" and develops a hypothetical course syllabus complete with lessons learned and suggestions for further reading. Among the lessons learned from the economic analysis of pirates are the importance of greed for driving mutually beneficial interactions, the limits of formal regulation, and the importance of entrepreneurship and spontaneous order for operating a business. Also discussed are the costs of discrimination, how laws shape the costs and benefits of doing business, and the importance of establishing a brand to reduce information costs. The power of this chapter is that it creatively demonstrates the relevance of pirate practices for modern-day business and managers.

A short epilogue and prologue close the book. The epilogue discusses the ubiquity and relevance of the economic way of thinking, while the prologue discusses the decline of seventeenth and eighteenth century piracy and briefly discusses contemporary pirates in Somalia and elsewhere.

Most authors are fortunate if their book makes one significant contribution. *The Invisible Hook* makes at least four important contributions. The first contribution is in the area of economic history. To my knowledge, Leeson is the first economist to provide a detailed economic analysis of seventeenth and eighteenth century pirates. He relies on a variety of primary and secondary sources to develop and document his arguments and to dispel existing views that pirates were irrational and insane brutes. In contrast, Leeson convincingly shows that many well-known pirate behaviors had rational foundations and were driven by the desire to maximize profits.

Second, Leeson demonstrates the power of the economic way of thinking for understanding a wide variety of behaviors. At a time when many of my colleagues in the economics profession emphasize mathematical and statistical cleverness over actual relevance, it is refreshing to see an analysis such as Leeson's, which employs the economic way of thinking in a clear, yet analytically rigorous, manner accessible to readers of all backgrounds. If others in the economics profession followed Leeson's example and logically applied the economic way of thinking in a similarly accessible manner, many harmful and ineffective policies would be avoided.

Third, *The Invisible Hook* provides insight into the industrial organization of criminal organizations. A small literature by scholars such as Diego Gambetta and Steven Levitt analyze the organization and economics of criminal organizations such as the mafia and street gangs. Leeson contributes to this literature by providing detailed economic analysis of the organization of pirate "firms." In doing so, he contributes insight into the underlying foundations for the structure of criminal organizations. One interesting extension would be to compare organizational structures across criminal "firms" to understand similarities and differences.

Finally, Leeson makes an important contribution to the growing literature on the "economics of anarchy," whose main contributors include Bruce Benson, Avinash Dixit, and Jack Hirshleifer. This area of research attempts to understand how order can emerge in the absence of a formal state. What mechanisms facilitate interaction and cooperation where formal rules and regulations are either non-existent or dysfunctional? The power of Leeson's analysis is to illuminate some of the mechanisms creating order where we would least expect it to emerge. Pirates, of course, were criminals—they stole from others and relied on violence where necessary. Given this, it is logical to assume that the anarchy in which pirates operated was disorderly and chaotic. In reality, however, pirate behavior was orderly and cooperative.

In some sense, *The Invisible Hook* could not have been released at a better time. In April 2009, pirates were again front page news when Somali pirates attempted to seize a U.S. cargo vessel, the *Maersk Alabama*, which was attempting to deliver relief supplies to Africa. The crew was eventually able to fend off the pirates, but not before they captured the ship's captain. The captain was held captive for several days before being rescued by U.S. Navy SEAL snipers who killed the pirates. This, however, did not end the threat of piracy off the coast of Somalia and elsewhere. If one was looking to take issue with *The Invisible Hook*, they could argue that Leeson provides little analysis of these modern-day pirates. As noted, there is a brief discussion of modern pirates in the prologue, but beyond that the reader will not find specific analysis. Leeson notes that contemporary pirates share little with their ancestors. Modern pirates spend little time on their ships and have relatively small crews. As such, they do not face the same problems as their seventeenth and eighteenth century brethren. At the same time, given that rational choice analysis is applicable across time and space, the same tools can, in principle, be used to analyze the behavior of contemporary pirates.

In all fairness to Leeson, this is at least partially due to the standard time lag in academic publishing between initial writing and final publication, which can often be over a year. At the time the manuscript was being researched and written, contemporary pirates were a minor issue. Moreover, Leeson is clear that his focus is on seventeenth and eighteenth century pirates. Given the differences between past and current pirates, a complete analysis would be beyond the scope of a single volume. The good news is that there is plenty of material for Leeson to write a second book focusing on contemporary pirates. One can only hope that he chooses to do so.

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