

COMPATIBLE INCENTIVES AND THE PURCHASE OF MILITARY COMMISSIONS

DOUGLAS W. ALLEN*

ABSTRACT

For several hundred years European armies staffed their officer corps through a system of purchase. Different ranks had different prices, and as officers moved through the ranks they would sell one commission in order to purchase the next. This basic observation, along with the large sums paid, seem incongruous with twentieth-century views on military organization. This article argues that the system was efficient in that it solved a selection problem and provided appropriate incentives. It is argued that the internal structure, methods of payment, differences across countries and military branches, and the final collapse of the system are all consistent with this hypothesis.

I. INTRODUCTION

MUCH has been written about the first duke of Wellington, Arthur Wellesley, and his military exploits in the war against Napoleon. What is perhaps less well known is that Wellington purchased his first commission as ensign in 1787 and, by 1794, after purchasing seven further commissions and having seen no military action and having received no military training, had reached the rank of colonel and was in charge of his own regiment. Were it not for his subsequent victories, such a process of purchase over merit and formal training might seem folly both on the part of Wellington and the British army. Yet Wellington was hardly alone since the purchase system, crudely founded in medieval times and continued until 1871 in Britain, was the central means by which the European armies staffed their officer corps.

Most historians appear to have a dim view of the purchase system. Leonard Cooper is typical in stating, ‘It was a system which hardly admitted of any defense, so illogical was it and so much harm had it done to the

* Associate Professor of Economics, Simon Fraser University. This article has benefited from the voluntary comments of Yoram Barzel, Bruno Frey, Steve Globerman, Dean Lueck, John Lunn, Clyde Reed, Tom Ross, Desmond Sackey, and Gordon Tullock.

[*Journal of Legal Studies*, vol. XXVII (January 1998)]

© 1998 by The University of Chicago. All rights reserved. 0047-2530/98/2701-0002\$01.50

Army.”¹ Contemporary critics of the system were also common, with the earliest recorded criticism being a statement made in the British House of Commons in 1641 that “the buying and selling . . . of the commands of forts, castles and places of trust, are causes of the evils of the kingdom.”² It is common in the historical record to find the purchase system blamed for the excesses, foibles, and disasters of military history and seldom given any credit for victories. Yet this conclusion must be premature and must result from a myopic view of the role purchase played, given that it was an integral part of successful armies for great lengths of time.

This article presents an alternative hypothesis. Here the purchase system is considered as one aspect of an efficient incentive contract. Understanding the purchase system requires understanding the incentives of individual officers and the constraints faced by the crown in staffing its military. To consider it only in isolation naturally leads to the conclusion that it was illogical.

The perception of irrationality no doubt begins with the basic characteristic of the system: paying to be a soldier. After all, it seems illogical for someone with no formal training in war to actually pay to lead a company. Furthermore, added to the illogic of the general scheme were the large sums paid for an army commission when by all accounts the official wages were so low. For example, in 1832, Lord Brudenell bought a lieutenant colonelcy for between £35,000 and £40,000.³ Bruce points out the absurdity of the purchase price based on the expected wage of a soldier: “An officer received little more in pay than the income he would have gained from an annuity purchased for the same costs as the regulation price of his commission. For example, a captain in the Foot Guards received annual pay of £283; interest (of four per cent) on the price (£8,500) of his commission would have produced a yearly income of £340.”⁴

Higher-ranked officers also incurred other expenses in addition to the purchase of their commissions. Although the crown subsidized them, colonels were required to pay for all regiment expenses. These included the

¹ Leonard Cooper, *The Age of Wellington* 21 (Dodd, Mead, 1963).

² Anthony Bruce, *The Purchase System in the British Army, 1660–1871*, at 11 (Royal Historical Society, 1980).

³ The crown established prices for every rank. The regulation price of a colonelcy was £6,175 (Gwyn Harries-Jenkins, *The Army in Victorian Society* 69 (University of Toronto Press, 1977)). Although it was illegal to trade at nonregulated prices, it was common, and the transacted prices seldom were close to the regulated ones. The transaction was between the two soldiers, so in this case, the officer selling the colonelcy would have received the £35,000–£40,000.

⁴ Bruce, at 86 (cited in note 2).

costs of recruitment, uniforms, wages, equipment, and any welfare paid to the wounded or widows.⁵ Yet among the commissioned soldiers there was no serious and persistent grumbling or revolts about the low pay, nor was there any increase in pay over the last 200 years of the system.⁶ In fact, for most of the history of the purchase system the major opposition for terminating the purchase of commissions came from the soldiers of the day.⁷ All of which points to the fact that there is more to the system of purchase than the simple selling of offices. If the purchase of commissions was part of some *rational* scheme designed to best staff the army, then there was clearly more to the method of compensation than straight wages.

A second aspect of purchase warrants the use of economics in the pursuit of understanding it: namely, it survived a long time under the most competitive of environments. Innovations in all aspects of the military, from weapons and tactics to organization, when successful, were quickly adopted by other states. In such an institutionally competitive environment it would be impossible for the purchase system to survive for several hundred years if it failed to assist the army in its function. In this light, one must inquire into the merits of the purchase system, both from the point of view of the soldier and the monarch, and all the more so, given that staffing an army with officers having no military experience is incongruous in the latter part of the twentieth century.⁸ In addition to asking why it survived, one must also ask why it ended so quickly. For most of Europe, the arrival of Napo-

⁵ Correlli Barnett, *Britain and Her Army: 1509–1970*, at 138 (William Morrow, 1970).

⁶ Regarding pay, Harries-Jenkins, at 85 (cited in note 3), notes: “The rates laid down in 1797 remained unchanged during most of the nineteenth century, but surprisingly, while this lower rate was a frequent source of complaint, it was never a major controversial issue.”

⁷ Failure for calls of reform by the current soldiers may only have reflected their vested interests. After all, they had purchased their commissions, and an uncompensated elimination of their right to resale would have made them worse off. However, discussions regarding the termination of the system always included compensation for investments, and when the system was finally ended, those who had paid for their commissions were compensated. Bruce, at 125 (cited in note 2), details the debate which finally led to abolition in Britain, and states: “At an early stage, Cardwell [secretary of state for war] established that the circumstances in which officers would receive compensation from the government would be broadly similar to their entitlement to sell their commissions while purchase existed.” In fact, there is evidence that the crown compensated officers who never purchased to begin with. Hence, the officer opposition to alterations in the purchase system probably did not simply reflect their dollar investments.

⁸ As Michael Glover, *Wellington’s Army: In the Peninsula: 1808–1814*, at 22 (David & Charles, 1977), states: “The principle of purchase is so foreign to twentieth-century ideas that it is easy to believe that it was an indisputable evil which can be held responsible for all the army’s shortcomings. This is certainly not the case. . . . The system was patently inequitable but it achieved results, and was surprisingly little resented by those who were left behind.”

leon meant a permanent alteration in the officer corps. In Britain it would take an additional 70 years, but the purchase system was ultimately replaced there as well.

My argument begins with a historical overview of purchase details in the next section. Then Section III articulates the general hypothesis of this article, namely that, in selecting a successful army, two problems require attention: first, high-quality soldiers must be selected; second, they must be provided with incentives to fight that are compatible with the incentives of the king.⁹ The purchase system, generally speaking, provided a second-best solution to both of these problems. It encouraged soldiers to self-select according to ability and provided them with incentives to fight that matched reasonably well the overall objective of the war. Section IV provides several tests of this hypothesis, and Section V concludes the article.

II. OVERVIEW OF THE PURCHASE SYSTEM

The practice of purchasing a position in an army dates back to the thirteenth century, peaks in the seventeenth and eighteenth centuries, and dies out in the nineteenth century.¹⁰ Throughout this time the purchase system evolved, and thus the purchase of command in 1200 was considerably different from purchase in 1870. Although the purchase system was used by all European powers, the focus here is on the British army.

The purchase system has its beginnings when Henry II (1133–89) relieved the landed class of a medieval tradition introduced by William the Conqueror which required landowners to supply the king with knights for 40 days of the year. Instead, Henry II began a form of taxation with which he hired mercenary companies.¹¹ The modern commercial connotation of the word “company,” in part, reflects the commercial nature of these armies. In addition to pay, the companies received a fraction of the plunder

⁹ The only recent economic work on raising an army is Thomas W. Ross, *Raising an Army: A Positive Theory of Military Recruitment*, 37 J Law & Econ 109 (1994); however, he is interested in the effect of relative costs over the decision to raise an army through conscription or through volunteers. As such, his paper is mostly concerned with the number of regular soldiers, and not the institutional details of the officer corps.

¹⁰ Along with the purchase of army commissions, it was also possible to purchase other civil offices, like postmaster, during this time. Gordon Tullock, *Corruption Theory and Practice*, 14 Contemp Econ Policy 6 (1996), is the only economic paper to my knowledge that addresses the purchase of public offices and commissions.

¹¹ One should not confuse mercenaries in general with officers who purchased their commissions. By the seventeenth and eighteenth centuries, the officers were all nationals who bought their commissions from other soldiers, while the regular troops were made up of nationals and hired foreign mercenaries. During the time of Henry II the entire company was made up of mercenaries, who among themselves would sell and trade positions within the “firm.”

of war, including any ransom from captured prisoners and contributions for protected property.¹² Shares in these companies were determined by the capital investment of its members and were tradable.¹³ The purchase of shares by active soldiers was the institutional forerunner of the formal purchase of commissions, which fully developed in the seventeenth century.¹⁴

Initially these corporations were composed mostly of foreigners. They eventually became dominated by nationals, and by the time of the Tudors the crown was granting commissions only to landed subjects who then raised a company in service to the British king only.¹⁵ Until the late 1600s, the British never had a standing army. In time of war the king would raise an army in the fashion just mentioned, and it would be disbanded in peacetime. After the Restoration in 1680 and the Glorious Revolution in 1687, there was great debate over the necessity of a standing army, but perpetual problems with France and colonial struggles resulted in a de facto standing army. The practice of purchasing commissions, begun by Henry II, carried through to the standing army.

The institution of purchased commissions meant that the crown and Parliament did not have total control over the staffing decisions of the army because the commission was owned in large part by the buyer, who had the right to resell it. This led to several conflicts and attempts by the government to regulate resale. For example, the government established various prices for the different ranks. In practice a black market arose, and the traded prices varied considerably, often being much higher (and lower) than the stipulated prices. This was despite the fact that selling above the regulated price (cashiering) was against the law.¹⁶ Furthermore, over time rules

¹² See Bruno Frey and Heinz Buhofer, *Prisoners and Property Rights*, 31 *J Law & Econ* 19 (1988), for a fascinating discussion of the treatment of prisoners and the rise and fall of ransom.

¹³ Bruce, at 3–7 (cited in note 2). The capital investments would include horses, equipment, and possibly cash.

¹⁴ This organizational innovation was soon copied by the other European powers of the time. It was spurred on by the medieval innovations of the pike and longbow, which lowered the value of knights relative to foot soldiers. Although foot soldiers were cheap relative to knights, an army required a large number of them. The innovations of the Swiss pikemen forever eliminated knights from battle.

¹⁵ Although the soldiers themselves were still often foreigners.

¹⁶ Although it was illegal to sell above the regulated price, there appears no evidence that the crown made any effort to prevent it. When the time came to abolish purchase in 1871, this presented Her Majesty's government with a dilemma: to compensate commissioned officers for only the regulated value of the commission would mean massive opposition from the army and the House of Lords, as well as a likely defeat in the Commons; to pay for the "black market" value would be to recognize an officially illegal practice. The solution was found in establishing a royal commission which concluded that the centuries-old "tacit acquiescence in the practice" amounted to "a virtual recognition of it by civil and military

were imposed on minimum ages, minimum times between ranks, and conditions for transfer.

At the turn of the eighteenth century it was possible to purchase a first commission above the lowest ranks, but by the end of that century it was almost always the case that an officer would enter the army at the rank of ensign—the minimum age of entry being 16. Once in the army, promotion could take place with the purchase of a commission immediately above the current one; that is, by the end of the eighteenth century, one could not “skip” ranks. There was a general pecking order over who was able to purchase the commission based on regiment and seniority, although there seems to be a plethora of exceptions and ad hoc cases in which merit and experience determined who was able to purchase commissions. In such cases, senior officers, war ministers, and even the king might influence who was eligible to purchase. As J. A. Houlding notes: “The value of experience and merit, was a much more important aspect of the promotion system than is usually credited.”¹⁷ From 1700 on, the purchase system was *not* an example of unfettered free market activity.

When one officer “sold out,” retired, or transferred to another unit, he created a chain reaction through a series of vacancies.¹⁸ Although there did exist nonpurchase commissions, these generally could not be sold.¹⁹ Most commissions from 1700 to 1871, however, were purchased: “According to the most informed estimate some two-thirds of the commissions held in the British Army at any one time were had by purchase, the remainder having been obtained by a variety of non-purchase methods.”²⁰ Michael Glover, however, claims that the number of purchased commissions varied a great deal and were as low as 20 percent of promotions in times of war.²¹ All purchases were subject to the approval of the crown, and the king report-

departments and authorities” (as quoted in Bruce, at 123, cited in note 2), the result being full compensation.

¹⁷ J. A. Houlding, *Fit for Service: The Training of the British Army, 1715–1795*, at 106 (Clarendon, 1981).

¹⁸ This is mentioned by several historians. Houlding (id at 101) is typical in stating: “It will be noted that a vacancy set off a chain reaction within a regiment since nobody could move up the ladder without at the same time selling, thus requiring a chain of purchasers.”

¹⁹ A nonpurchased commission was where an officer was promoted on a nonfinancial basis. Most of these commissions took place in the heat of battle. When an officer was killed, a junior officer would be promoted on the spot to replace him.

²⁰ Houlding, at 100 (cited in note 17).

²¹ Glover, at 82 (cited in note 8). Although he also quotes (from 79) Wellington as saying “Nothing is more difficult than to promote an officer, excepting on a very long standing, to a troop or company without purchase.” Harries-Jenkins, at 72 (cited in note 3), provides another estimate: “In time of peace it was clear that the number of non-purchase promotions was relatively small. In the years before 1838, for example, it was calculated that, overall, approximately three-quarters of all promotions were filled by purchase.”

edly paid close attention to the granting of commissions, especially at the higher ranks.

Once past the rank of lieutenant-colonel, the commission could not be sold. When an officer of lower rank retired he could sell out or move to the half-pay list. In this latter case he received half-pay for life but remained on the active list and could still be promoted based on seniority. Hence a lieutenant-colonel would eventually lose the ability to sell his commission if he went on half-pay.

III. A THEORY OF THE PURCHASE SYSTEM

There is one traditional argument for the existence of the purchase system, namely that it kept the army in the hands of the aristocracy, the ones who had a stake in the survival of the constitution. According to Wellington: "It brings into the service men of fortune and education—men who have some connection with the interests and fortune of the country besides the commissions which they hold from his Majesty. It is this circumstance which exempts the British Army from the character of being a 'mercenary' army, and has rendered its employment for nearly a century and a half, not only consistent with the constitutional privileges of the country, but safe and beneficial."²² However, this contention seems to fail in the case of Great Britain. First, ironically, Wellington himself was not a man of fortune or education. His family's limited resources were mostly directed at his older brother, and he dropped out of school for both financial and academic reasons. Although dominated by the upper class, the officer corps was not its exclusive domain.²³ Second, after the Glorious Revolution and the transfer of major powers to the House of Commons, "ordinary citizens" were concerned with the constitution and the interests and fortune of the country.²⁴ Third, and more important, this argument ignores the fact that the willingness to pay for a commission is based on expected future returns. Individuals of fortune and education were unwilling to pay for a commission if it were to yield a loss.²⁵ Furthermore, individual officers who expected to receive large rewards in the future would borrow on those future returns in

²² S. H. Stocqueler, *A Personal History of the Horse-Guards* 153 (1873).

²³ In fact, if this were intent of purchase, a better system would have explicitly stated so. As it was, the purchase system often allowed men from families of industrial wealth who were not part of the landed class.

²⁴ Wellington also gets it wrong in stating that purchase separated his army from mercenary ones. As noted, purchase evolved from the early mercenary army.

²⁵ Ignoring any utility one might get from joining the military. Although some officers no doubt were motivated by this, this motivation would appeal to all classes of men. Furthermore, it seems an unlikely explanation for the entire system and long history of purchase.

order to pay for the commission.²⁶ The existence of the purchase system was much more likely due to the nature of war than to the patriotism of some members of society.²⁷ The general hypothesis of this article is that the military constraints that existed in Europe from 1400 to 1800 were best matched with the set of incentives created by the purchase system in order to minimize the cost of raising an army. In general, two major incentive problems existed: to recruit high-quality officers, and to induce officers actually to fight in battle in a way that increased the net gain from war.

A. *Self-Selection*

The first problem in raising an army is to find high-quality soldiers and officers. An army that experiences no disincentives among its soldiers but whose soldiers are totally inept at fighting is a losing army just the same. Prior to the nineteenth century, it was generally thought that a great soldier was born, not made. This implicitly reflected the fact that the inputs for a good soldier were unobservable. What makes a great military leader? One who can motivate troops, ensure they are fed, take some risks but not others, and make the right decision in the heat of battle. The question is fundamentally unanswerable and is similar to “what makes a great entrepreneur?”²⁸ Furthermore, direct supervision of inputs in battle was also difficult because officers essentially made their decisions in isolated situations where communication was difficult. Furthermore, nature played an extremely large role, and soldiers were matched mostly against opponents in hand-to-hand

²⁶ This ability to borrow, of course, depends on capital market conditions. There seems to be many references to officers who borrowed money from family members or individual investors in order to purchase a commission. Capital constraint problems, however, no doubt led to the large fraction of the landed class in the officer corps.

²⁷ There are two additional hypotheses that deserve mentioning. First, the military was often used as a method of the newly rich and landed class to gain cultural acceptance and respectability. Hence, officers may have purchased their commissions in an attempt to buy honor rather than to have the chance for spoils of war. This no doubt happened and is an example of the adverse selection that could have resulted from a purchase system. These individuals may have even paid a premium for “safe” companies, but it is not reasonable to suggest that the entire system, over several hundred years, was designed to screen new entrants into high society. Second, there is no question that the purchased commission acted as a bond for good behavior since it could be forfeited for misconduct. In actual practice, this was rarely done. According to Harries-Jenkins (cited in note 3), “Critics of the system argued that it was very unusual for an officer to forfeit the value of his commission through misconduct, since an individual who was to be dismissed from the army was ‘invited to retire’, a procedure which allowed him to sell out.” The role as a form of guarantee capital, however, merely enhances the role of incentives and does not explain the detail and evolution of purchase.

²⁸ See Donald McCloskey, *The Limits of Expertise: If You’re So Smart, Why Ain’t You Rich?* American Scholar 393 (1988), for an argument on why we can never answer these questions.

combat. In addition, easily observable signals that may have been correlated with ability did not exist. There were no military schools, nor were there obvious skills that could be measured.

Under these conditions military officers can best be paid in terms of output as residual claimants. In this way the purchase of commissions acts in the same manner as the purchase of any business, with soldier entrepreneurs self-selecting what type of fighting they were best suited for. Those who were correct in their personal assessments were rewarded by large residuals and continued to purchase higher positions, which in turn led to larger shares of booty. Those who were incorrect were likely to exit the industry—permanently and horizontally. The key to the success of such a market structure to the officer corps would be the process of self-selection. Only those who truly thought they could command successfully would advance in the ranks.²⁹

Throughout the time of purchased commissions, successful regiments were paid in part through the spoils of war. This in effect made the soldiers residual claimants. A key feature of the purchase system is the actual payment for the commission because it established a property right over the expected residuals from battle. Were the spoils in the public domain, too many individuals would enter the army and the average quality of soldier would have fallen. By introducing a pricing mechanism, only those officers who anticipated a future stream of earnings higher than the marginal soldier entered service.

B. Incentives to Fight

Having high-quality soldiers, however, is only half the battle. Soldiers require the proper incentives to perform. These include the incentives not only to fight but to fight in the interests of the entire army. Because of extreme situations in warfare and the opportunities for being killed, incentive problems abound. The private desire to preserve one's life, regardless of the effect this might have on the overall mission, is a problem of first order that armies must overcome. Agency problems are no doubt extremely high in army regiments where one's life is on the line. Geoffrey Brennan and Gordon Tullock examine the private incentives of soldiers under attack and conclude that armies are partly designed to mitigate the Prisoner's Dilemma

²⁹ H. C. B. Rogers, *The British Army of the Eighteenth Century* 58 (Allen & Unwin, 1977), expresses the sentiments of this article when he states: "The purchase system worked much better than might be expected because it was generally the keen and ambitious officers who saved money to enable them to get on in their chosen career."

problems that arise.³⁰ They argue that concepts of morale and loyalty and of positive and negative rewards were intended to overcome a private soldier's incentive to save himself at the expense of his company.

The key aspect of the purchase system—namely, that officers were ultimately rewarded through residual claims—is also an important mechanism for establishing incentives to fight. Soldiers received minimal levels of pay for supplies, but their incomes could grow only through actual battle. Residuals mostly arose from the spoils of battle, and rewards from the crown for victory. In paying officers this way, the crown encouraged soldiers to engage the enemy. The common theme in the historical record is that the hope of treasure was a major motivator of the officer corps.³¹ Bruce also states that “[a]part from gaining an occupation and the possibility of demonstrating personal courage, the reasons why men agreed to serve as officers were mainly financial . . . every commission was potentially valuable and . . . an officer would only surrender his proprietorship in return for compensation from his successor. The price apportioned to each rank generally reflected the level of profits likely to be made and the proportionate expenditure involved in raising the corps.”³²

C. *Matching Individual and Army Incentives*

The purchase system was a second-best solution to the problem of raising an army. The payment to soldiers with prize money was useful in attracting high-quality soldiers but could still have hindered the army if the private incentives it provided jeopardized the object of the mission. Premature or excessive looting that prevented the army from victory would have to be discouraged. If looting or extortion in themselves began to affect the overall agenda of the army, then the purchase system should not have survived.

³⁰ Geoffrey Brennan and Gordon Tullock, *An Economic Theory of Military Tactics*, 3 J Econ Beh & Org 225 (1982). Robert Axelrod, *The Evolution of Cooperation* (Basic, 1984), argues the same thing in a chapter on warfare in the World War I trenches. Soldiers facing the same opposition week after week begin to cooperate and either cease firing or miss on purpose. The army's solution was to rotate their troops. Gordon Tullock, *Methodological Individualism under Fire*, 8 J Econ Beh & Org 627 (1987), provides another striking example. Apparently it is well known in the military that most soldiers in twentieth-century battles failed to fire their weapons. Tullock interprets this as a Prisoner's Dilemma application since firing a weapon draws attention to your position and intentions and, therefore, increases the chance of being shot at. Hence the dominant strategy is to sit quietly in a protected spot and wait.

³¹ For example, see Harries-Jenkins, at 61 (cited in note 3): “[T]he underlying principle which had motivated recruits was the hope of prize money, private or corporate, the latter being distributed on a fixed scale according to the rank of every officer.” Or see Cooper, at 11–12 (cited in note 1), who states that “a colonel owned his regiment as much as if it were his shop or his business.”

³² Bruce, at 8–9 (cited in note 2).

“Too much” fighting as well might have hindered success if regiments had strategic value in containing or defending an enemy rather than attacking.

The purchase system was obviously part of the incentive structure of the individual soldier. Its Achilles heel was that, under some circumstances, the incentives of the individual soldiers did not match those of the army. When the incentives reasonably matched those of the crown, all was well, but when they did not, the system failed. In a 1766 letter to the judge advocate general, regarding the Board of General Officers, Lord Barrington, secretary of war in the mid-eighteenth century and one critical of the practice of selling commissions to individuals perceived too young, states the essential problem of compatible incentives. “That colonels of regiments should not attend to these consequences is not matter either of wonder or blame; their care is extended no further than to their own corps, and while they command it; but the officer of the crown, who is entrusted with the important charge of the whole army, a body whose probable duration infinitely exceeds the short space allotted to individuals, cannot be too vigilant, least confined temporary convenience or compassion should produce general permanent mischief or distress.”³³

To reiterate then, the system of purchasing a military commission was used to self-select officers into the military given the general difficulty in observing military talent and the lack of alternative screens or signals of quality. Next, the purchase system, by paying with prize money, provided an incentive to engage the enemy in battle.³⁴ With this form of payment there is a tendency for “too much fighting.” This externality acts as a cost of the system, and in order for it to function properly, the incentives to fight of the individual soldier and commander must match those of the crown.³⁵

IV. TESTS OF THE HYPOTHESIS

In this section I argue that the historical record is consistent with this hypothesis. First, evidence is presented that officers were indeed paid by looting and other forms of prize money. Second, I argue that the internal logic of the rules of the purchase system were consistent with the hypothesis. Third, the hypothesis is used to explain the fall of the purchase system,

³³ As quoted in *id* at 174.

³⁴ In providing this incentive, it may have helped avoid some battles. Some towns may have offered tribute in order to avoid invasion, knowing that each individual opponent had a private incentive to fight. In fact, this was the way Napoleon took most of northern Italy. Thanks to an anonymous referee for pointing this out.

³⁵ An analogy can be made with the sale of a franchise. A franchise contract self-selects individuals who can manage the franchise, and the details of the contract, including the method of payment, encourage the franchisee to act in the interests of the franchiser.

why it ended first in Europe and later in England, why the use of foreign soldiers parallels the use of purchase, and finally why the purchase system was never used in the navy or the ordnance corps even though the navy still paid based on prize money.

A. *The Payment of Prize Money*

Unfortunately, there is no systematic historical study on the actual returns to soldiering. However, there is ample indirect and anecdotal evidence that soldiers were paid out of the spoils of war. Glover notes that Napoleon, in his early successes in northern Italy, extracted £80,000 and “twenty fine paintings” from the grand duke of Parma and later extorted £800,000 from the city of Milan.³⁶ No details are provided as to how this money was divided, but given the French reputation for living off the land of their victims, these were probably not isolated cases. Glover also notes that, in the 1826 British attack on the fortified city of Burtpore, 100 miles south of Delhi in India, “the survivors divided £480,000 among themselves in prize money. Combermere’s [the commander’s] share was £60,000.”³⁷ Finally, Redlich notes that “[m]uch more important as a source of income to common soldiers was booty, legitimate and illegitimate alike. . . . Some soldiers accumulated small fortunes from loot, as much as 8,000 to 20,000 talers. . . . Provided that the troop was at full strength, out of every 1,000 talers available, the commanding general would receive 100 and each common soldier, 5 talers.”³⁸

Further evidence that soldiers received payment in terms of booty is that the price of a commission reflected discounted future returns. Troops returning from overseas had higher prices reflecting the predictable outcome that the sick and wounded would soon retire. Hence the higher prices reflected the increased speed one could move up the chain of command. Troops heading to poor locations like the West Indies had prices fall. The West Indies were notorious for disease, and so the price fall reflected the reduced chance of survival. And if a regiment were badly managed, it was reflected in the price of commissions.³⁹ These fluctuating prices also provided opportunities for capital losses. For example, in 1796 an officer from the West Indies wrote: “To give you an idea of what people think of the

³⁶ Michael Glover, *Warfare in the Age of Bonaparte* 46 (Cassel, 1980).

³⁷ Michael Glover, *Warfare from Waterloo to Mons* 48–49 (Cassel, 1980).

³⁸ F. Redlich, *The German Military Enterpriser and His Work Force* 495–96 (Steiner, 1964).

³⁹ See Glover (cited in note 8) for details.

West Indies, my company has been on sale for £1,200 [£300 less than the regulation price] ever since I came home [a year ago].”⁴⁰

Not only were officers paid by some form of prize money, but the true winners, like Wellington or Marlborough, received high rewards as well. F. Redlich, in one of the few historical attempts to estimate the wealth of various military entrepreneurs, argues that the sixteenth-century German commander Georg von Frundsberg’s estate, made up of gifts, booty, contributions, and salary, was “equivalent to about one and a half million pre-World War II dollars.”⁴¹ Redlich provides estimates of three other German military enterprisers’ wealth from the same century, concluding that they all died wealthy. For the purpose of the argument here, it is only necessary to show the possibility of generating large sums of income from military leadership that more than offset any initial purchase price of the commission. There seems ample evidence that this was the case.

B. The Internal Structure of the Purchase System

The purchase system evolved into a well-developed set of rules, the general logic of which is consistent with my hypothesis. By the time Britain had a standing army, with an entrenched form of purchase, several rules promoted the dual feature of purchase: namely, to self-select qualified soldiers and to provide incentives to fight.

Self-selection is not without its problems. Individuals, and their families, may have a biased or utterly mistaken view of the necessary talents for military success, such that mistakes in measuring one’s own ability are inevitable. Furthermore, there may arise cases of adverse self-selection, in which individuals with particular looting talents join the army, but their skills do not increase the chance of victory. To safeguard against this problem, the purchase system evolved to where purchase was made initially at the lowest rank. Marlborough instituted a number of changes that involved minimum years service for different ranks and minimum ages at which to join the service. Perhaps most notable was the rule preventing the sale of commission after the rank of colonel. Preventing the highest-ranking officers from selling their commissions forced colonels to make a final and complete decision to throw their wealth and welfare into the army. Only those that truly believed they had the opportunity to succeed in battle would carry on. Even though there is a pyramid of ranks, with relatively few colonels, this explains why the largest number of retirements through sale of commission

⁴⁰ Id at 21.

⁴¹ Redlich, at 74 (cited in note 38).

in the army came at the rank of colonel.⁴² All of these rules provide additional screens to the self-selection mechanism provided by purchase. Lower-ranked officers make smaller mistakes than higher ones, and thus they impose fewer costs on the rest of the army in discovering if they truly do have talents for fighting.

A second feature of the purchase system was the distribution of prize money based on rank. Prize money was allocated in a nonlinear fashion, with the higher ranks receiving a disproportionate share. This reinforces the self-selection mechanism by avoiding payouts for good luck. Survival and success to the upper ranks is more likely to be based on the key human capital that makes a good soldier. Were payments more equally distributed, individuals would join the lower ranks, not because they thought they might be successful soldiers, but because the expected payoff is simply high enough for them to risk their life in a single battle.

A third feature of the purchase system was that soldiers purchased their commissions from other soldiers and did not purchase them directly from the king. The crown's willingness to forfeit this revenue is another example of creating proper incentives.⁴³ As noted in the introduction, the value of commissions in an entire regiment partially depended on how well the regiment was run and what the chance of survival was. Allowing officers to earn a capital gain on their commission encourages the unit to be more successful.

A fourth aspect of the general compensation scheme was that the use of prize money as a reward was made only when the army was attacking. When the army held a defensive position, such as with forts, payment was made in a lump sum to the officer in command. This officer was required to manage the fort and was allowed to keep the residual as income. This held for governing colonies and the day-to-day management of the regiment and demonstrates that prize money was used to provide incentives to fight, and not because other contractual arrangements were not credible.

A final aspect of the structure of purchase was the restrictions on looting that attempted to match the incentives of the individual soldier with those of the crown. Throughout the history of purchase, restrictions on looting were in place, and as battles became more coordinated affairs, the restrictions increased until finally payment by booty was replaced by other forms

⁴² One could retire on what was termed "half-pay." However, this still led to promotion through seniority to higher ranks and, therefore, the loss of the capital value of the commission.

⁴³ It is not clear this is a loss of revenue to the crown. In equilibrium soldiers expect a certain wage. If the crown retains the purchase price, then salaries or prize shares must increase to compensate.

of prize money. Redlich notes that “looting a supposedly defeated enemy too early was dangerous just as it had been in medieval times; it might lead to the ultimate loss of a battle. . . . Stealing and robbing in areas which paid [tribute] was prohibited.”⁴⁴

In Wellington’s Spanish campaign, he relied heavily on the goodwill of Spanish resistance forces and forbade his troops to loot them. In Wellington’s army, looters were subject to the lash, and those who looted by force were likely to hang.⁴⁵ From the 1500s to the French Revolution, when European armies were made up mostly of mercenary forces, when battles were small and relatively bloodless affairs, captured soldiers were ransomed back to the other side, and tributes were made to the victors—looting was at an all-time low. Montross states: “Beginning about the year 1660, men appeared by tacit consent to have agreed upon a warfare of moderation which lasted until the outbreak of the French Revolution in 1789. . . . Looting and devastation reached a minimum among forces which received their pay, food and clothing from the state.”⁴⁶ In contrast, when armies had little interest in repeated interactions with their enemies, looting was much more likely, as was the case with the mercenary armies of the late Middle Ages. Montross says of Edward III, “After landing in Normandy in 1346, Edward III made it evident that his invasion was a large scale plundering expedition. . . . [H]e showed more concern over loot than the garrisoning of captured towns and fortresses.”⁴⁷

C. *The Fall of the Purchase System*

Purchase ended in England in 1871 and in Europe about 70–100 years earlier. If purchase was a successful means of selecting officers, why did it stop? To summarize, the key to the purchase system was that rewards could be based on performance with minimal monitoring of the regiment. In the early years of medieval fighting, battles were extremely small, and rewards amounted to what could be looted and carried away. In these isolated battles the king wished for a victory, and the colonel wished for the opportunity to sack. The two incentives matched, and minimal monitoring was necessary. The battles were also fought mostly man to man. Since each individual soldier received a share of the plunder, they were also residual claimants, and the need to monitor was reduced. As battles became larger

⁴⁴ Redlich, at 496 (cited in note 38).

⁴⁵ One story tells of two British soldiers making off with a large mirror. Wellington had them both hanged—along with the mirror!

⁴⁶ Lynn Montross, *War through the Ages* 313 (Harper Brothers, 1960).

⁴⁷ *Id.* at 169.

and more coordinated among the soldiers and the regiments, simple looting was replaced by more organized distributions of the spoils, and ultimately the rewards came from the crown, with penalties for looting. As battles became larger events, the private incentives to maximize individual wealth started to impede the success of the war.⁴⁸ Hence, one of the chief advantages of the purchase system became a major drawback. In addition to this, changes in tactics and war technology began to demand certain amounts of formal training. The new training schools provided a substitute for the self-selection mechanism provided by purchase. The purchase system was replaced by a professionally trained and paid army to allow for more bureaucratic armies with direct monitoring.⁴⁹

Until as late as the end of the eighteenth century, battles were quite limited in scope. Innovations in offensive weapons and defensive technologies from the twelfth century on lowered the value of mounted soldiers relative to foot soldiers and increased the use of tactics, but it did not allow for large-scale fighting. Throughout this time, soldiers fought in a line, a column, or a square, and the outcome usually hinged on individual performance.⁵⁰ Battle size was constrained by several factors. First, movement was limited. Before the widespread use of rail, troops had to march, and on a good day only 25 kilometers could be managed. Transportation not only affected the speed of troops but also the speed of orders. Until the introduction of telegraphs during the Napoleonic Wars, orders were transported by horse. Both of these features constrained battlefields to be small.

A second limiting factor at the turn of the nineteenth century was the musket. The musket was notorious for being inaccurate, and to be effective using one required coordinated shooting. This was usually done by forming a line three men deep. The line, however, turned out to be very difficult to manage and quite dangerous to move.⁵¹ The introduction of the breech-load-

⁴⁸ See Frey and Buhofer (cited in note 12) for a nice discussion on the effect changes in military technology had on the treatment of prisoners.

⁴⁹ Given this gradual change, one prediction is that purchase should continue to be practiced where small-scale warfare was still practical. Section *D* below exploits this point.

⁵⁰ Montross, at 159 (cited in note 46), in discussing a typical thirteenth-century battle, notes the following: “[the battle] consisted of three separate battles waged by the mounted wings and the infantry centres of the opposing armies. These unrelated contests were in turn made up of hundreds of single combats in which individual strength or skill counted for more than tactics.”

⁵¹ As Glover, at 14 (cited in note 36), states: “A brigade of four battalions at full strength would occupy almost 800 meters when deployed three deep.” Indeed, one of the major French innovations was a foot drill that allowed troops to quickly move from a column formation (used to advance) to a line formation (used to fire). This allowed for quicker and hence larger troops. Glover, at 16, cites this as one of the major advantages Napoleon had over his opponents. In his words, it “enabled the republic’s generals, and especially Napo-

ing rifle drastically altered the way armies fought and hence the way soldiers were paid. The rifle increased both the range and accuracy of shooting. Furthermore, the breech loading allowed soldiers to lie on the ground while shooting since the gun was no longer loaded from the end of the barrel. Whereas armies in the eighteenth century fought in the wide open where cumbersome lines could be maneuvered, the nineteenth century saw fighting move to the woods and towns where soldiers could conceal themselves.

The leaders in almost all military advances during the nineteenth century were the Prussians. They were the first to develop breech-loading weapons, steel guns, machine guns, strategic weapons, and advanced military training.⁵² Consistent with the model here, they were leaders in abolishing the purchase system and instituting universal mass conscription—which reduces the value of payment by prize money because each individual soldier receives a trivial share.⁵³ Furthermore, the Prussian army was directed by a general staff that coordinated operations across the entire state and ensured that troops were directed under a single plan.⁵⁴ This was completely different from the relatively independent regiments of 100 years earlier. The swift Prussian defeats of Austria and France in 1866 and 1870 caught the attention of the whole world as other armies scrambled to imitate their organization and catch up.

Hence, between 1500 and 1790, very little changed in military technology. Although battles grew larger, the infantry still dominated army tactics and organization.⁵⁵ This led to relative stability in the organization of armies. After 1790, however, the changing technology had a large effect on

leon Bonaparte, to run rings round their opponents, who clung to the staid maneuvering of earlier years.’’

⁵² In terms of formal military training, the British, French, and Prussians all established military schools at the turn of the nineteenth century (Sandhurst in Britain, 1802; St. Cyr in France, 1808; and Berlin in Prussia, 1810).

⁵³ Conscription, as we think about it in modern times, began in 1793 in France and shortly after in Prussia. If armies drafted their officers, as well as enlisted men, the draft would be completely inconsistent with purchase, and the two could not exist simultaneously. But it is only in the twentieth century that officers were drafted; the early use of conscription was strictly for regular troops. Drafting large armies does lower the share of prize money, and hence the simultaneous birth of conscription and the death of purchase is consistent with the hypothesis of the article.

⁵⁴ Included in these organizational innovations is the introduction of a new rank, the ‘‘field marshal,’’ whose job it was to coordinate the series of battles.

⁵⁵ Peter Burke, ed, *The New Cambridge Modern History* 203 (Cambridge University Press, 1979), states: ‘‘[T]hese [sixteenth-century] innovations in warfare [canon, pike, musket] by land and sea were deeply significant. In effect they established the parameters of European warfare for almost three centuries: there was to be no further technological advance of comparable magnitude until the nineteenth century.’’

organization. All of these innovations, the movement of troops by train, communications by telegraph and the subsequent coordination of larger armies, and the switch from open field to covered fighting, reduced the advantage of rewarding soldiers exclusively in terms of individual or regimental performance. First, advances in these technologies often separated individual effort and remuneration, which eroded the incentive to fight under the purchase system. Second, and perhaps more important, the incentives of a large coordinated army no longer necessarily matched the incentives of a colonel or his soldiers. A central headquarters may wish for a city to be held or avoided, may wish for a strategic placement of troops to counter the enemies' opportunities—all of which may lower the residuals to soldiers paid in terms of booty.

The military advances reduced the usefulness of residuals as a method of compensation. Once this method of payment was eliminated, purchase could not survive since no one would pay to be a soldier simply to receive a soldier's salary. At the same time, these advances provided signals that could substitute for the process of self-selection. Taken together, they spelled the end of the system of purchase.

D. England versus Europe

Purchase ended in Europe before it ended in England. For example, the Prussian army was overhauled in 1806–8.⁵⁶ Subsequently, officers were to be selected based on training and education. Further, “when the new supply administration was put into effect on August 1, 1808, the captains' personal profit derived from the management of the company and squadron ‘housekeeping’ came to an end. No longer were captains permitted to sell small stores to their men.”⁵⁷

In France the purchase system had evolved, as in England, out of the mercenary companies. In France, officially only the colonels and captains purchased their commissions, although, according to Anthony Bruce, any promotions or appointments required the colonel's permission, and this was usually acquired at a price.⁵⁸ In France, efforts to abolish purchase began in 1775–77 and finally ended formally in 1790.

When technical advances are made in the methods or tools of war, there is a concomitant change in the organization, as mentioned in the last section. However, after the introduction of the longbow in the twelfth century,

⁵⁶ Although the purchase system was abolished in some German states as early as the beginning of the eighteenth century.

⁵⁷ W. Shanahan, *Prussian Military Reforms, 1786–1813*, at 142 (AMS, 1966).

⁵⁸ Bruce, at 9 (cited in note 2).

virtually all advances regarding warfare on land took place in Europe before occurring in England. For example, although rail was developed in Britain, the tracks were laid for commercial purposes. In Prussia, the tracks were laid for strategic reasons. According to Glover, “Prussia did develop an unrivalled network of strategic railways.”⁵⁹ These railways were designed to move troops quickly to the front. Developments in weapons and tactics were also more advanced in Europe than in England, as has already been mentioned in regard to rifles, troop maneuvers, and telecommunications. After 1815, England fought little in Europe, and this contributed to the lag in technical advances, which led to the lag in disposing of the purchase system.

E. The Use of Foreign Soldiers

Organized use of foreign mercenaries began with the Swiss tactical infantries in the late 1400s. These armies were effective not only in defending against a knight attack but also in defeating them, given their innovative formations and effective use of the pike. As with all successful military innovations, the Swiss tactics and use of foreign soldiers were quickly exported and copied. The advent of the infantry dramatically changed the way armies were raised. Whereas knights were employed on an individual contract basis, the lower relative value of a common foot soldier ushered in the services of a middleman, the military entrepreneur who would recruit soldiers and contract with a prince or lord for military services. Initially these middlemen were often knights, and they eventually evolved into colonels and captains of regiments.

From 1500 to 1700, all of the European countries used foreigners in their armies. For example, in 1743 66 percent of Prussia’s army was foreign-born.⁶⁰ Throughout the eighteenth century the use of foreigners diminished, and Britain’s efforts to raise 16,500 Germans, Italians, and Swiss for the Crimean War was the last time a country tried to hire a foreign army. By the nineteenth century, most countries had regulations prohibiting foreign military service.

The rise and fall of the use of foreign soldiers parallels the rise and fall of purchase—and for the same reasons. It seems reasonable that foreign soldiers would be less patriotic and less willing to sacrifice themselves in limb and body than their national counterparts. However, when purchase is used to staff the army, and direct booty is the method of payment, the in-

⁵⁹ Glover, at 51 (cited in note 37).

⁶⁰ J. Thomson, *Mercenaries, Pirates, and Sovereigns* 29 (Princeton University Press, 1994).

centives of the soldier are reasonably in line with those of his host monarch. As war became more complex, as battles became larger, and as regiments and armies began to require coordination from a battlefield general, the incentives generated by payment through spoils of war become less aligned with those of the crown. In such a case, national soldiers become more reliable than foreigners, and the latter fade from the military landscape.

F. *The Navy and the Ordnance Corps*

While the purchase system was common in the infantry, cavalry, and guards regiments, there were two groups in the British military in which commissions were not purchased: the navy and the ordnance corps (made up of the Royal Engineers and the artillery). Purchase was absent here because formal education existed as an alternative screening mechanism. Although none of these groups required their commissions to be purchased, the navy still rewarded its officers with booty, while there seems to be no evidence that the ordnance corps was paid this way. This seems to reflect the relatively low costs of monitoring ordnance performance compared with the navy or other elements of the army, as well as the fewer opportunities these groups had to take booty.

Relative to the infantry, where no formal training was required for service, the navy and ordnance corps required intensive training. Navigation, physics, and chemical training were but a few obvious examples. Students unable to complete this training were unable to enter these professions. Training was not sufficient for a good officer, but it was necessary. Hence the existence of a decent screening device provided a substitute for the use of self-selection based on willingness to purchase a commission. Since this screen existed for both groups, it is consistent that neither used the purchase system. The second feature of the purchase system was that it provided incentives to fight and perform duties in situations where it is difficult to monitor efforts. In the case of the ordnance corps, output was potentially easier to measure, and hence officers were paid by wages. The installation of a bridge, the accuracy of large fire, and so forth, are at least theoretically observable, and much more so than the performance of a battleship in the middle of an ocean or a soldier in the heat of battle.

In contrast, naval battles take place in remote locations, and performance is difficult to monitor.⁶¹ As with the army, there is ample evidence that prize

⁶¹ Voltaire, in *Candide* 111 (Penguin, 1947), has an interesting observation on monitoring in the British navy. On seeing a man executed and asking why, Candide is informed:

“He was an admiral,” they told him.

“But why execute this admiral?” he enquired.

money was a key means of paying sailors and providing incentives. Lewis states: “[Full Pay and Half Pay] however, do not complete the tale of all inducements: and the plain fact is that it was neither Pay, Half Pay, Allowances nor Pensions which commonly tempted a man to enter in the first place. What did were . . . the incalculable chances of what might turn up—if one was lucky.”⁶²

In the navy the shares for booty were spread over the crew and were determined by legislation. Brennan and Tullock mention an example of the British navy under sail: “Any enemy merchant ship captured by a British ship was auctioned with its cargo and resultant proceeds divided: one quarter to the admiral . . . one quarter to the captain, one quarter shared among the officers and one quarter among the enlisted men of the successful British vessel.”⁶³ Booty came in several ways. When at war, ships could capture enemy vessels and share the cargo.⁶⁴ If the ship was sunk, “blood money” was paid based on the number of sailors in the opposing vessel.⁶⁵ Ships that captured pirates received the cargo, bounty prices for each pirate, and the ship.⁶⁶ Capturing a slave ship could also lead to large rewards. In the early nineteenth century the British government paid £60 per male slave freed, and between 1807–22 paid out £318,380 for freed slaves.⁶⁷ Howarth notes that “British seamen were as patriotic as anyone else, but what they talked about when they sighted an enemy fleet was not the victory they might win for Britain, it was the prize-money they could hope to win for

“Because he had not enough dead men to his credit,” was the reply; “he joined battle with a French admiral, and it has been established that their ships were not close enough to engage.”

“But surely,” exclaimed Candide, “the French admiral must have been just as far from the English as the English admiral was from the French!”

“True enough,” was the answer; “but in this country we find it pays to shoot an admiral from time to time to encourage the others.”

⁶² Michael Lewis, *The Navy in Transition: A Social History, 1814–1864*, at 231 (Hodder & Stoughton, 1965).

⁶³ Brennan and Tullock, at 235–36 (cited in note 30).

⁶⁴ Although rare, this form of prize money could be enormous. When the British defeated the Spanish in 1762 at Havana, the commanders in chief each received £70,000 (Oliver Warner, *The British Navy: A Concise History* 74 (Thames & Hudson, 1975)). In another instance, in 1799 three frigates brought two Spanish ships into Plymouth. According to David Howarth, *Sovereign of the Seas: The Story of Britain and the Sea* 227 (Atheneum, 1974), “Each frigate captain got £40,730, lieutenants £5091, warrant officers £2468, midshipmen £791 and seamen and marines £182 4s.” A seaman’s pay at the time was about £14 per year.

⁶⁵ Although British naval tactics were designed to capture, not destroy, enemy ships.

⁶⁶ Lewis (cited in note 62) notes that, given the incentives for pirates to fight, their tendency to minimize the time cargo was kept on ship, and the low quality of their vessels, very few ships went out of their way to catch them.

⁶⁷ *Id.* at 234.

themselves.’’⁶⁸ Hence the navy provides an interesting case where no purchase of commission was made, yet the payment included a booty residual.

V. CONCLUSION

On the surface, the purchase of commissions is a puzzling phenomenon. If one scratches the surface, the puzzle gets greater given the large sums paid to be an officer. The hypothesized resolution of this puzzle is that purchase was used to solve two problems: to select officers of high quality, and to provide proper incentives in battle. The first goal was achieved via the self-selection aspect of purchase. Those willing to pay large sums believed they could be successful. The second goal was achieved because along with purchase went the right to receive a fraction of the spoils of war.

This hypothesis explains not only the existence of purchase, but its decline as well. From the introduction of the pikemen to the introduction of the rifle, few military advances took place. The relative increase in the value of infantry and the larger scale of fighting led to the conditions that supported the purchase system. The introduction of strategic rail, telegraphs, and the rifle radically altered the nature of the battlefield. Large coordinated battles were no longer consistent with soldiers receiving residual claims, and thus the purchase system ended. As I have argued, this hypothesis is consistent with its longer existence in Britain than in Europe, with the rise and fall of mercenary troops, with the internal rules of the system, and with the absence of purchase in the navy and ordnance corps.

⁶⁸ Howarth, at 227 (cited in note 64).