The Journal of Private Enterprise 32(2), 2017, 83–91

Do Economies of Scale Exist in Private Protection? Evaluating Nozick's "Invisible Hand"

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Abstract
Robert Nozick argued that private protection services produced in an environment without regulatory oversight would lead to a natural monopoly. This argument suggests that advantages in economies of scale incentivize protection firms to concentrate where no regulatory authority exists. If modern private security firms are somewhat analogous to protection agencies, we should observe more concentrated, larger firms when the industry is left without regulatory oversight and more numerous, smaller firms when this industry is heavily regulated. On the contrary, recent evidence suggests that private security firms become larger and the number of firms declines as regulation becomes more stringent.

JEL Codes: L120, L510
Keywords: private security, regulation, Robert Nozick, economies of scale, natural monopoly

I. Introduction

The possibility that competing private protection agencies could operate separately in a long-run equilibrium within a stateless society has been disputed by some libertarian scholars. Robert Nozick (1974) was among the leading proponents of this view, arguing that private protection agencies would converge into a natural monopoly through an "invisible hand" process. These converging firms would eventually resemble a government. Other scholars (Friedman 1979; Benson 1990, 1998; Rothbard 1973) have argued that numerous private protection agencies could exist within a stable equilibrium in a stateless society.

Modern empirical evidence on protection agencies operating without government is limited. Somalia operated without a centralized government from 1991 through 2006 and had clan militias that offered private protection services for hire (Leeson

* I thank Bruce L. Benson and Peter Leeson for helping me formulate the idea for this paper.

2007), but centralized state authority has now been partially restored.[1] Evidence from tenth- to thirteenth-century Iceland (Friedman 1979) suggests that it may be possible to have dispute resolution and protection produced privately without a formal government sector to oversee these services. European merchant law after the eleventh century evolved and was enforced through largely voluntary noncentralized mechanisms that did not rely on government enforcement (Benson 1989). Some forms of customary Native American law enforcement were also provided through mutually advantageous agreements between individuals, which were not enforced by a central authority (Benson 1991).

In opposition to this view, Holcombe (2004) claims that while coercive government protection institutions may be undesirable, they will inevitably emerge out of anarchy. His contention goes further than Nozick's by claiming that mafia-type protection organizations will use force to establish governments in most cases.[2]

This paper does not deal with the inevitability of violent methods for private protection firms to establish governments. Instead, it provides evidence pertaining to Nozick's thesis: that protection firms have a natural tendency to merge because of economies of scale that would lead to natural geographic monopolies. I cite empirical evidence from studies of the private security and patrol service market within the United States and from weak and failed regulatory states throughout the world. I follow Friedman (1979) and Benson (1990) in assuming that private protection issues are separate from national defense. National defense organization has little to do with the scope of this paper.

II. Private Security Institutional Environments in US States

The private security market within the United States provides a good platform to analyze the impact of different regulatory environments on private protection services. Within the United States, different states adopt different mechanisms to regulate the private security industry. In some states, private security guards do not come under any special regulatory institution; in other states, occupational licensing for private security guards exists and government agencies

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[1] For evidence that Somalia's statelessness actually improved living conditions relative to former periods and to other African states, see Powell, Ford, and Nowrasteh (2008).

[2] For additional exploration into defense and security in stateless societies, see Leeson and Coyne (2014), Block (2014), Cole (2007), and Jasay (2008).

provide oversight. In some states where licensing exists, private-security-specific boards regulate this industry (Meehan and Benson 2015).

Obviously, private security firms operating within the United States are very different from private protection firms operating without a state. But, the degree to which private security firms organize in less regulated states should provide some evidence of the natural tendency of protection services to organize as regulatory costs decrease. The question becomes: At the margin, does a less stringent regulatory institutional environment encourage Nozick's perceived natural monopoly tendencies in the private protection industry?

If less regulatory oversight results in private security tending to produce geographic natural monopolies, convergence of smaller firms in this industry into fewer and larger firms should be observed in places where private security regulatory oversight is relatively less strict. Evidence from Meehan and Benson (2015) suggests that when private security licensing boards are made up of licensed private security guards, regulatory requirements tend to be relatively strict.[3] The implication is that oversight by existing private security guards tends to increase the strictness of regulations. Additional evidence from Meehan (2015) suggests that as these regulations increase, they skew the distribution of firm size, relative to states where no occupational licensing requirements exist. As regulatory barriers to entry increase in these states, fewer firms with more employees tend to emerge.[4] Thus, the market becomes more concentrated where more regulatory oversight exists, and states that have more lax regulatory institutional environments tend to have smaller, more numerous private security firms. Either a strict regulatory environment aids in helping to take advantage of economies of scale, or private security services do not possess the degree of economies of scale in their cost structures that would lead to natural geographic monopolies.

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[3] The particular regulatory requirements used in this analysis were state level occupational licensing requirements. Experience, training, testing, and bond and insurance requirements were examined.

[4] Experience, training, and bond and insurance requirements tended to have disproportionately negative impacts on firms that had one to four employees or five to nine employees, and as firm size increased, these same requirements tended to have a disproportionately positive and significant impact on firms with more than twenty employees. Estimations from this study also suggest that increases in the testing, training, and experience requirements reduced the amount of private security firms per 100,000 people within a state.

As an industry is allowed to operate in a competitive free market, it may enhance the information provided by relative prices in evaluating consumer's preferences (Hayek 1945) and, as such, enhance each firm's ability to estimate accurate opportunity costs involved in operation. If this is true, then in states where private security firms operate in a relatively free market, they may discover consumers' true preferences, which could help these firms establish a more efficient size. The marginal benefits and costs of an additional employee in a competitive market would be determined through consumer preferences and not subject to regulatory mandate. The opportunity cost of entry would be different in an unregulated marketplace relative to a marketplace with strict regulatory oversight. States where firms are restricted by regulatory requirements might not be able to operate at an efficient scale. For instance, in many states, a potential private security firm license holder has to engage in state mandated training or testing. These fixed costs of entry tend to reduce the number of firm-level licenses and the number of firms (Meehan 2015). These types of regulations provide incentives to produce services under one licensee who has qualified for the license. People who might have entered the industry as competition for the licensee are incentivized to not enter the industry at all or to work under the current license holder as an employee.

Some argue that if market prices are not communicating information effectively to consumers, regulation could help increase market performance. If, for instance, asymmetric information exists in private security markets, licensing could provide a baseline quality guarantee, which increases the efficiency of this market.[5] Privately provided certification in a free market could also provide a similar quality guarantee,[6] and would have to survive a market test as an indicator of quality. If the certification agency tends to certify low quality producers in the long run, these certification services would tend not to be purchased.

Does increased regulatory oversight via occupational licensing requirements enhance the efficiency of the private security industry? As discussed previously, if regulation is just reducing information costs in the absence of certification, it may result in more efficient markets. Evidence from Benson and Meehan (2017) suggests that efficiency actually decreases as regulatory requirements become more

[5] See Law and Kim (2005) for a discussion of occupational licensing as an efficiency enhancing institution.

[6] See Friedman (1962) for a discussion of certification and occupational licensing.

stringent. Using changes in state level regulatory requirements as an exogenous shock to the amount of private security firms suggests that property and some violent crime levels tend to increase as the number of private security firms decreases. If the efficiency of the private security market is evaluated by its impact on crime, it appears that strict regulations tend to decrease efficiency.

III. Private Security in Weak States

The number of private security companies has grown recently in connection with countries that have weak central rule or large amounts of territory or sea routes not protected by military or police. Isenberg (2012) indicates that many new private security companies have formed to protect against piracy in the ocean waters close to Somalia. These companies specialize in this type of maritime security, and have done so successfully, as Shapiro (2011) indicates, no ship protected by armed guards from these companies had been "successfully pirated." Maritime security in this area has not been dominated by one firm, and in fact, the number of firms involved in this protection service has grown over time.

Beyond maritime security services, many private security companies have set up operations within weak or failed states.[7] Branović examines the growth of private protective services within these countries. The countries used in this analysis are described as follows:

> The data presented here are focused on a specific set of countries that experienced state failure or even collapse in at least one year in the period 1990–2007. In this paper these countries are said to display failing state characteristics, which are related to deficits in the effective control of territory, the monopoly of violence and the ability of state actors to enforce and implement political decisions (Sonderforschungsbereich 700, 2005, p. 36, as cited in Branović 2011, p. 17)

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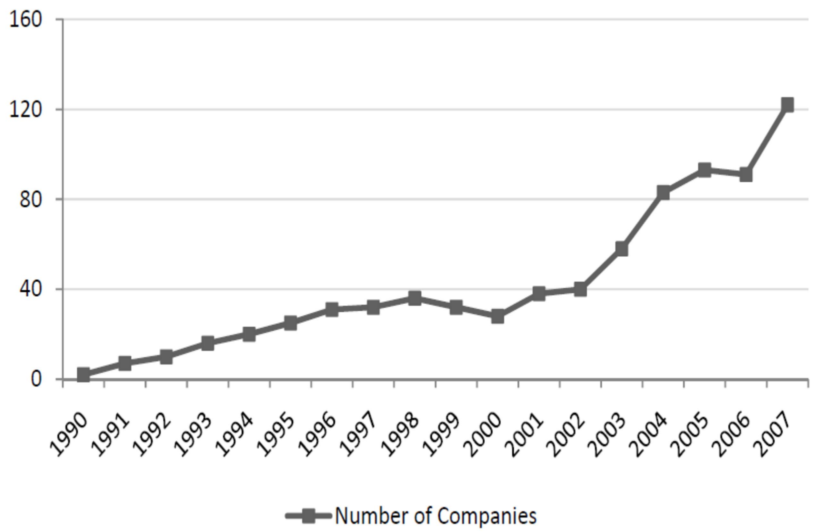
[7] Branović (2011) identifies failing states in accordance with "four macro social events, namely revolutionary wars, ethnic wars, adverse regime change and genocides and politicides" (p. 17). If these events occurred in at least one year of the 1990–2007 sample, then the country was used in the analysis. These countries were Afghanistan, Albania, Algeria, Angola, Azerbaijan, Bosnia, Burundi, Cambodia, Colombia, Congo-Brazzaville, Congo-Kinshasa, Côte d'Ivoire, Croatia, Ethiopia, Georgia, Guatemala, Guinea-Bissau, Iraq, Lebanon, Liberia, Mozambique, Nepal, Nigeria, Peru, Philippines, Rwanda, Sierra Leone, Somalia, Sudan, Tajikistan, Uganda, and Yugoslavia (Serbia and Kosovo).

Branović refers to these private protection agencies as private military and security companies. Some of these protection services may be employed or influenced by outside governments,[8] which may differ from the analysis of citizen- and consumer-driven private protective services. These governments may have different interests than the security of existing individuals and firms within these countries, which may impact the level of violence used by these protective agencies. But, to the extent that these protective firms are operating within a weak or failed regulatory state and providing security and protection services to people on the ground, they do provide insight into the tendencies of protective firms to concentrate or not.

Figure 1. Number of Private Security Companies per Year in Failing States



Source: Reprinted from Željko Branović, *The Privatisation of Security in Failing States: A Quantitative Assessment*, Geneva Centre for the Democratic Control of Armed Forces, 2011.

[8] The data used in this study were focused on companies that provided security service contracts to public actors, which Branović refers to as "the sum of all institutions and bodies of states and international organizations." Data that examine private protection agencies that contract exclusively with individuals or private entities would be preferred to these data, but no reliable source is known for such statistics.

Figure 1 shows the growth of private security companies in these failing states from 1990 through 2007. Over this period, the number of firms increased from just 32 to 122, an increase of almost 300 percent. That increase is associated with an average annual growth rate in the number of private security firms of almost 17 percent. From 1998 through 2010,[9] the number of private security guard and patrol firms in the United States grew by 47 percent, for an average annual growth rate of about 3.6 percent. The United States and these failed states have very different existing public security institutions, and most of the differences here are fluctuations in the demand side, but the patterns of security provision are of interest. It is not just one (or a small group) of companies that are providing these services, and the service providers tend to increase at a higher rate than they do relative to more regulated countries, like the United States. It is these patterns of firm development and growth across time that pertain to Nozick's thesis.

IV. Conclusion

From a public choice perspective, the increasingly strict regulatory institutions that result in fewer and larger firms are a predictable result of allowing private security guards to regulate their potential competition. The potential for regulations to be used for private interest has to be taken into account when examining the impact of different regulatory institutional arrangements on market structure. Private protection services are no exception to this rule, and the evidence suggests that increased regulatory oversight tends to reduce competition and reduce efficiency. As regulatory oversight becomes more formalized, it encourages a more concentrated market, which suggests that relatively strict regulatory institutional arrangements could be increasing monopoly power. States that have less regulatory oversight encounter less concentrated monopoly power in private protection markets. The growth in private protection agencies within countries that have limited regulatory power has been substantial over the past few decades. This finding contributes to the conclusion that private protective agencies tend to grow in number, and compete as opposed to consolidate, as the regulatory state weakens. This comparative institutional analysis suggests that intense regulatory oversight encourages market concentration in protective services.

9 1998 was the first year the US Census Bureau used North American Industry Classification System (NAICS) codes that uniquely identify private security and patrol services as separate business types from private detective and alarm services.

Unless Nozick's "invisible hand" is aided by government, protection services do not tend to have natural monopoly tendencies in a free market, and market concentration tends to decrease as regulatory oversight becomes less strict.

Nozick assumed that the evolution of private protective services into a minimal state would be a peaceful process, thus we have analyzed tendencies of private protection firms within the relatively peaceful environment of the United States. Presumably, licensed private security firms within the United States rarely use violence to attack each other in order to gain market share. The evolution of private security firms in weak and failed states where little regulation is present provides further evidence that private security guards evolve in a very different way than Nozick predicted. Many of these firms are more likely to engage in violence, but much of this violence does not pit protection agencies against each other. As indicated by Isenberg (2012), violence instead protects against potentially invasive threats such as piracy. Isenberg's example deals with firms or individuals hiring protection for themselves and does not deal with military private protective services hired by governments. The evidence provided by Branović also examines protective agencies within weak and failed states, yet many of these firms are hired by governments and "public actors." Even these types of firms have grown in number in recent years and do not appear to be consolidating. This paper addresses Nozick's particular criticism of the evolution of private protection services operating out of anarchy; it does not address mafia-type violence between protection agencies. Assuming a peaceful environment limits the application of this analysis. But it serves as a useful piece of counterevidence for those who assume that Robert Nozick's invisible hand exists as he described it.

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