



State or private security supply? An analysis from the institutional economics perspective

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Abstract

The issue of domestic security has become increasingly complex over the past decades. As there is an increasing overlap between private and public provision of security, the question of how to allocate responsibility for security between the public sphere (state) and the private sphere has become important. Concepts that can provide both clarity and sufficient complexity are much needed. This article offers an institutional economics concept. This implies a method where basic elements of neoclassical public finance (e.g. differences like provision v. production or public v. private goods) are combined with explicitly institutional and security economic elements (degree of prevention, specificity, repressivity, state monopoly on the use of force). As a result, a normative distinction between state and private security responsibilities based on qualitative arguments is offered.

Keywords Civil security · Security economics · Privatization · Public good · Public finance · Security industry

Introduction

Domestic security is an important issue for a significant proportion of the electorate and is prominently discussed in the political arena. While public perception still focuses almost exclusively on the state as the guarantor of security, there is widespread agreement in scientific and lawmaker circles that a balance must be struck between private and state responsibility that is ultimately beneficial to society. Accordingly, Van Steden and De Waard (2013, p. 307) formulate the challenge as follows: “The search to strike a more optimal balance [between public and private security] in crime control and security governance is of the utmost importance in the years to come.”

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There is also broad consensus in the literature that a mere binary classification—that is, either exclusively public or exclusively private responsibility—fails to do justice to the complex topic (see, for example, Dupont 2014, p. 264).¹ As a result, there have been increasing attempts in recent years to better account for the complexity involved, with ‘plural policing’ and ‘blurring lines’ identified as useful (see, for example, Dupont 2014, p. 264; Stoughton 2017).

This article aims to contribute to this discussion by presenting an institutional economic perspective on the division of labour between state and private security actors. The concept is an attempt to provide both clarity (Who is on the demand side? Who is on the supply side? Is there a willingness to pay and, if so, by whom?), as well as the ability to process sufficient complexity, especially for further interdisciplinary debate. In doing so, this concept is designed in such a way that both certain arrangements existing in practice can be understood, and it can also be a normative orientation for the future design of institutions, which at least partially overcomes and shifts the abovementioned limits. At the core of the concept, we see the difference between provision and production (see, for example, Grosseckler 1998, 2007). For each of these two levels, relevant criteria are presented to identify the responsibility of the state or private actors.

The considerations presented here can also build on analyses in which the distinction between provision and production has already been included (Schmidtchen 2004, 2007; Folkers and Weißgerber 2009; Ayling 2017, p. 941). The scope of this distinction will be explored more clearly here. In doing so, this article pays particular attention to the fact that security or, more precisely, protection² services have a potentially repressive character. This is one of the outstanding characteristics of these economic goods. This means that fundamental liberties are also considered, which is possible within the framework of modern institutional economics. At the same time, the conventional neoclassical analysis of private versus public goods is not obsolete, but equally relevant.

The remainder of this paper is organized as follows. In the following section, security problems and protection services are discussed in relation to each other. Three ideal–typical levels of protection services are identified. In the third section, we provide the central distinction between provision and production. In section four, we present criteria that allow us to identify government versus private responsibility, separately for provision and production. The fifth section discusses this assignment for each of the three ideal–typical levels of protection services. Finally, conclusions round off the paper.

¹ Accordingly, a normative orientation based on the relationship between private security personnel and public police officers (e.g., de Waard 1999, p. 155; Shearing and Stenning 1981, p. 199) has certain limits.

² The state of security is understood by the authors to be a function of two interacting and opposing activities, namely threat and protection.



Security problems and protection services

This section provides the foundations for understanding key terms around security problems and protection services for the purposes of this article.³ We aim to provide an idea of how a plurality of protection services may address a given security problem. As understood here, a security problem is a relationship between a (potential) offender and someone else's property, where the (potential) offender seeks to cause harm to that property (Bretschneider et al. 2019, p. 92f.). The term 'property' refers to a broad concept: ownership of life, health and freedom, and material and intellectual property (Schmidtchen 2007, p. 844).⁴

If the offender succeeds in his or her intention, that property experiences damage, and the proprietor becomes a victim. Economically speaking, the property experiences a loss in value and the proprietor is forced to bear costs accordingly. Here, the term 'costs' includes all kinds of burdens, not just pecuniary ones (including costs to health such as injury, trauma, or death). This description of a security problem applies to a wide variety of problems: for example, theft, burglary, vandalism, robbery, kidnapping, or terror attacks.

Understandably, the proprietor or the state, in its performance of duties as a protector, will respond to a threat if it exceeds a certain level by applying protection services. The protection may be a service like policing or prosecution, or it may be a product such as a door lock, a gun, or an alarm system. When we talk about protection services in the following sections, we also include protection products, as there is a trend in the security industry towards offering protection package solutions that integrate both.

The function of protection services is to decrease the expected value of the potential damage, mostly by building 'hurdles' and 'barriers' for the offender. From an economic point of view, one main characteristic of protection services is that they are costly—based on the fundamental assumption of scarce resources (Tulkens and Jacquemin 1971, p. 1)—without generating future income. Thus, based on rationality, the proprietor or the state will apply a protection service only if the costs of the protection service are lower than the (expected value of the) costs of the potential damage. Or, considered gradually: the proprietor or the state will expand the protection service until the marginal costs of the protection service equal the (expected value of) the costs of the potential damage.

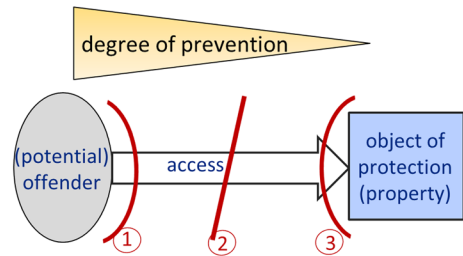
In the following sections, we consider the relevant feature regarding the nexus of security problems and protection services. In most cases, there is not just one protection service per security problem. Rather, there is a plurality of possible protection

³ An exhaustive discussion of the term 'security' is dispensed with here. For insights to the complexity of the term see e.g., Gill and Howell (2012), p. 16ff.

⁴ A similar basic understanding of security issues can also be found in the classic article on private security of Shearing and Stenning (1981), p. 195. Accordingly, Gill (2017), p. 981: "[...] [T]he importance of security derives from its potential to protect people and their assets in particular from mal-intended actions."



Fig. 1 Three types of protection services as response to a certain security problem



services. Often the protection services—addressing the very same security problem—show different degrees of prevention. This idea is illustrated in Fig. 1.⁵

To give an idea of varying degrees of prevention, the figure shows—ideally—three different stages of protection services (the red lines) with a decreasing degree of prevention.⁶ These three stages are:

- (1) Prevention through degrading conditions for potential offenders, by means of offender-related deterrence. The ideal—typical protection service at this level is the (threat of) *punishment* (Ehrlich 1996, p. 44). While punishment is imposed after the crime has been committed, its societal function of general prevention is above all an anticipatory effect, which leads to deterrence: “Punishment, as carried out, is necessarily *ex post*; a person who violates the law is punished after the fact. The objective of punishment, on the other hand, is *ex ante*; punishment institutions are chosen only for the purpose of preventing and deterring violations.” (Buchanan 1975, p. 134)⁷
- (2) Mobile protection services for several properties, functioning as a filter. An example here is *patrol services*, which fulfill the functions of both deterrence as well as rapid intervention. Here multiple properties are protected, and in many cases from multiple potential offenders.
- (3) Stationary object-related protection ‘close to’ the good of protection (*self-protection*)⁸ (Ehrlich and Becker 1972; Zimmermann 2014). This includes door locks, alarm systems, personal protection, or site protection aiming at improving the level of security for a specific property.

⁵ Based on Bretschneider (2018), p. 5.

⁶ Bretschneider et al. (2019), p. 94, show *five* instead of three different types/levels of protection services. One additional protection service has the highest, the other one has the lowest degree of prevention. The former relates to so-called ‘positive incentives’ for potential offenders (Ehrlich 1996, p. 44). These aim to increase time opportunity costs of criminal activities. This is mainly economic policy (employment policy), but also social policy, integration policy, education etc. This stage one might call ‘security-related non-security policies’. The latter relates to insurance for damage to the protected property (Ehrlich and Becker 1972). This is the typical *ex post* response. For this article, the focus will be on the ‘middle’ three levels. This is the security regime in the narrower sense. Those levels are also the levels for which the question of ‘privatization of security’ is being discussed in the scientific debate.

⁷ It should not be forgotten that there are also other protection services (beyond punishment) ‘close to’ the potential offender. One example is the de-arming of extremists and potential terrorists, which the current German government is planning (SPD et al. 2021, p. 108).

⁸ The term self-protection does not mean that there cannot be a make-or-buy decision involved here.



Of course, defining these three stages of protection services (featuring a varying degree of prevention) is a simplified gradual representation of a continuous variable, and needs to be specified in all its complexity for each specific security problem. For this paper, the general idea of the ‘triad’ deterrence–patrol services–self-protection may be sufficient.

How do these protection services, with varying degrees of prevention, relate to each other? From an economic point of view, the main feature here is that they are so-called imperfect substitutes. This means that they are substitutes to a certain extent. But relying too much on one type of protection service makes it too costly for society (which finances the state) or the individual proprietor. Thus, ‘imperfect’ means that they are, to a certain extent, also complements. To address imperfect substitutes, it is most efficient if a certain, ‘optimal’ mix of the various protection services is applied (Tulkens and Jacquemin 1971, p. 22; De Groot and Engerer 2011, p. 3; Bretschneider 2018). In this article, we will not focus on, or determine, the ‘optimum’ of the mix. Instead, the focus is on the determination of the criteria for statal or private responsibilities regarding those protection services at the stages mentioned above. To do so, relevant criteria offered by institutional economics are worked out, based on the distinction between provision and production.

The difference between provision and production

Regardless of the detailed nature of the protection service, it is sensible to distinguish between two levels for each (protection) service under consideration: *provision* and *production* (see, for example, Grossekkettler 1998, 2007; for security policy see Schmidtchen 2004, 2007; Bretschneider et al. 2019). On each of these two levels there is a different question to be answered regarding privatisation, there are different possible answers, and there are different criteria to assign responsibility to the public or private sphere.

- (a) At the level of *provision*, the relevant question is: Who should be responsible for decisions on the nature, degree of quality, and scope of protection services (in the light of scarce resources)? This responsibility can be assigned either to the state or to the private proprietor of a good of protection.⁹ The latter are effectively either individuals, private households, or private companies. The key question here is: Who should be the *security principal*, or, in other words, be the responsible party for provision of protection? The type of privatisation in question here is *material* (in contrast to *functional*) privatisation.
- (b) Secondly, the question of *production* must be answered systematically. The question here is: Who should be the *security agent*, or, in other words, the party that produces the protection? There are two answers to the question: either the security principal produces the service himself, or he buys services on the market.

⁹ The political economy-perspective should not be overlooked: if the state provides protection services it is on the other hand on the supply side of the political market, where voters are on the demand side (e.g., Erlei et al. 2007, p. 356).



This refers to a question that is well known in economic literature: make or buy? (Coase 1937; Shleifer 1998) The type of privatisation in question here is *functional* privatisation (contracting out, outsourcing, and so forth). If the security principal opts for the buy option, private protection service providers come into play.

Table 1 provides an overview for this.

Criteria to assign responsibility

This section presents important criteria that determine the security principal at the level of provision and the security agent at the level of production. Under which conditions is there state responsibility? Under which conditions do private actors come into play?

Criteria on the level of provision: excludability, specificity and repressivity

To determine responsibility as provider of protection services and assign it to either state or the respective private proprietor, three characteristics of the respective service are relevant: excludability, specificity, and repressivity.

(1) Excludability: The background here is the conventional neoclassical theory of market failure, or more specifically, market failure in the case of public goods (Samuelson 1954). If products or services are not excludable in terms of their benefit, there is—irrespective of any existing demand—no willingness to pay for them in private markets. The reason is that all private actors will wait for other private actors to produce or buy these goods or, in other words, to bear the costs. Eventually, no private household will buy the goods: they are free riders. This results in a lack of provision if those goods are left to private markets. To overcome this dilemma, the state becomes the provider of the good. Consequently, society's welfare will increase.

This argument has been widely applied in the field of security (see, for example, Stuchtey and Skrzypietz 2014; Engerer 2011; De Groot and Engerer 2011). Non-excludability and thus a governmental responsibility applies, for example, in the cases of punishment for preventative purposes and for observation of (potential) terrorist offenders, but also for patrol services. Each of these services provides a service to many potential victims, and thus to many owners of property. Finally, such services also share the characteristic of a high level of prevention (due to the large number of beneficiaries).

That said, there are services and products that are excludable in terms of their benefits. In this case, there will be effective private demand. This applies, for example, to door locks, security personnel, property and plant security, alarm systems, and access control systems. They take effect 'quite close' to the respective property and show a relatively low degree of prevention.



Table 1 The difference between provision and production

	Provision	Production
Relevant question: Who is the ... ?	Security principal	Security agent
Possible options	State or Private proprietor (private household, private company)	In-house production of the security principal ('make') or Market procurement ('buy')
In case: type of privatisation	Material privatisation	Functional privatisation (contracting out, outsourcing)

Usually, the classification and decision of provision and financing responsibility is also based on rivalry of use. As we want to focus our attention in this paper primarily on private as well as public goods (and not so much on club goods or commons), and the focus is not on the aspect of the regulatory desirable allocation of financing responsibility, we neglect the aspect of rivalry of use. To address this would necessarily mean having to deal with the issue of financing in depth, which is beyond the scope of this paper.¹⁰

(2) Specificity: In economics, the specificity of a good is the degree to which the good is still of value when used for alternative purposes. A good with high specificity is useful only for a single task or in certain circumstances. An asset with low specificity is creating value in a wide variety of uses. The transaction costs of redirecting the use of the latter good are relatively low (Williamson 1975).

In the case of the topic at hand, the specificity of a protection good or service is the degree to which it protects against a variety of threats. A protection good with high specificity will only protect effectively against a particular kind of threat, whereas a protection good with little specificity is useful to mitigate many kinds of threats.

Protection goods with a high degree of specificity are very effective in mitigating or fully neutralising one threat because they target a weak spot of the threat. It also seems plausible that a specific protection service has a very direct individual benefit for a single person or household, whereas unspecific protection services benefit more people or households. The foam of a fire extinguisher takes away the oxygen of a fire, which a flame needs to continue burning. A fire extinguisher is quite specific but could also be used to fight an intruder. In this capacity, however, it is far less effective than when extinguishing a fire.

In an environment in which the risks and threats are well defined and a certain threatening situation occurs rather frequently, it is more economical to invest

¹⁰ This does not mean that rivalry of use plays no role at all in the practice of internal security, beyond regulatory funding issues. Particularly in the case of threat situations that unfold in a short period of time, over a larger geographical area, over a longer period or are particularly severe, it is not uncommon for capacity bottlenecks to impede protection service providers and protection products. An example from the realm of safety: even heavy rainfall or flooding can quickly lead to the fire brigade no longer being able to pump out the cellars of all those affected in a timely manner. And in the area of security, the police also have to prioritize their deployment of forces very quickly when large events, riots and looting get out of hand, and must, for example, leave many acts of vandalism unpunished in favor of the more important danger prevention and the protection of life and limb of people in need of protection.



in specific protection goods. There is an optimal selection of protection goods to mitigate the known and frequently occurring threats. Take, for example, a levy that protects against floods twice per day. The levy serves little purpose outside of protecting against the sea, and at the same time it is clear who is benefitting from the levy. However, if the threat environment is less clear and there are many known and potentially unknown unknowns, protection goods that are less specific are better situated. A firefighting squad can be useful not only when fighting fire; they also protect against all kinds of natural disasters, accidents, terrorist attacks, and even problems that arise during war. A priori, it is therefore hard to predict who will benefit from the work of a firefighting squad. Unspecific goods can usually be better adapted if the threat evolves over time, rather than suddenly becoming useless.

Once the connection between, on the one hand, the protection good or service and, on the other, the beneficiary of the mitigated risk is well defined, it becomes clear who should be responsible for the provision (and financing). Therefore, the more specific a protection good, the more it holds the characteristics of a private good. By contrast, unspecific protection goods and services tend to be more public in nature. For example, a hardened apartment door secures against burglary, but it secures only the apartment behind it. More intensive patrolling of the neighborhood protects against burglary in this apartment, but also in all other apartments in the area (exclusion). At the same time, more frequent patrols also protect against vandalism, pickpocketing, sexual assault, and so forth. Thus, the patrol service is much less specific, and it is difficult to say in advance who or which group benefits from it.

(3) *Repressivity*: The relevance of this criterion becomes clear via the problem of vigilante justice. Punishment might very well be an economically private good through its function of revenge. This must be prevented to avoid a Hobbesian society. In contrast, in the modern world, a state monopoly on the use of force is established (Hobbes 1651/1996; Weber 1919/1958). The general problem here is that, in certain cases, the execution of protection services affects the fundamental rights sphere of (potential) offenders. For the (potential) offender, this means a reduction of freedom. Thus, the state monopoly on the use of force also implies that the rights of private proprietors to take care of their own protection in the form of repression are restricted (Grechening and Kolmar 2014, p. 5), even when they display a willingness to pay or to produce.

Buchanan (1975, p. 66f.), the founder of constitutional economics, describes protection services at first by their characterisation as a (neo-classical, conventional) public good, and then discusses the special feature of repressivity: "Each person will receive some benefit from the assurance that his established claims will be honored by others in the community. And there are mutual gains to all parties from engaging in some point or collectivized enforcement effort. Enforcement of property claims, of individuals' rights to carry out designated activities, qualifies as a 'public good' in the modern sense of this term. Enforcement is, however, different from the more familiar examples of public goods in several essential aspects. In order to be effective, enforcement must include the imposition of physical constraints on those who violate the rights structure, on those who break the law." Consequently, it is the



characteristic of (potential) repressivity that sets protection services apart from practically all other economic goods.

The distinctive difference between the two criteria (non-)excludability and repressivity regarding a private provision of protection service is this: in the case of non-excludability, private actors *will display no willingness to pay for* protection services. In the case of repressivity, private actors *should not demand* protection services, at least according to the rule of law in European and Western countries.¹¹ Thus, in both cases, the state must step in as provider.

How does this apply to the reflections in Fig. 1? For Stage 1 ('close to the [potential] offender'/deterrence by punishment), there is quite clear and obvious responsibility on the part of the state. This is because the security services are at least repressive towards (potential) offenders, and in most cases, they are also non-excludable. By contrast, the provision of protection services at Stage 3 ('close to the property'/self-protection) quite clearly lies in private responsibility. This is, at least, so long as they are not overly repressive and don't interfere with the human rights of aggressor. For Stage 2, mostly state responsibility applies, as the services fall under a wide range public goods (non-excludable) and are in many cases unspecific. However, the repressivity of protection services at this stage may vary, which does not affect state responsibility for provision, but becomes relevant at the level of production (see below).

Criterion on the level of production: Quality-based cost efficiency

After having determined the responsibility for provision, the question of responsibility for *production* arises. The focus in the section is on the question of possible contracting out (functional privatisation) in the case that the state is responsible for provision (state as security principal). The crucial criterion for the 'make or buy' decision is the *quality-based cost efficiency* (Schmidtchen 2007, p. 850). This criterion favours the alternative by which a desired quality of the service can be achieved at the lower cost.

It is crucial to analyse what 'quality' means. Based on the special characteristic of (potential) repressivity (see above) for protection services, it is most helpful to distinguish two dimensions of quality (Bretschneider 2019). In dimension 1, quality addresses the efficacy to which the good of protection is protected. In dimension 2, quality is performed sufficiently if the fundamental rights of (potential) offenders are considered, and consequently the prohibition of excessiveness is respected. The latter dimension is relevant whenever a protection service might lead to repressivity,

¹¹ Mind you, some people's sense of morality differs from this view. There are victims who punish perpetrators long after a possible self-defence situation out of revenge motives or as a deterrent, for example by hiring thugs and setting them on them.



and it addresses a special feature of several protection services: services where any form of force is used.¹²

Across these two dimensions, the following questions arise regarding quality: (a) What are the determinants of the *normatively desirable* level of quality? (b) What are the determinants of the *actual* level of quality? To address these questions, we focus on protection services provided by personnel (as distinct from provision through technical systems).

(a) Normatively desirable level of quality: For the quality dimension 1 (efficacy of protection), the expected value of damage to the threatened property determines the needed quality level; the higher the expected value of damage, the higher the quality needed. The expected value of the damage, in turn, is a function of the value of the protected good and the threat level (namely, the expected value is the product of the probability of occurrence and the amount of damage in the event of occurrence). For the quality dimension 2 (consideration of fundamental rights), the relevant determinant is the power of discretion: the higher the power of discretion in the event of the potential for abuse for those affected in the case of inappropriate usage of this power, the higher the needed quality. In addition, the depth of interference can be used to determine the quality.

Indeed, in practice, the *power of discretion* apparently outranks the *depth of interference* as the normative quality definition. An example is passenger control at airports. The control of bodies and private luggage has a high depth of interference in the sphere of a person's privacy. However, these are routine activities in which the executing security personnel has little discretion. Consequently, the needed quality in the process—in terms of needed qualification of the personnel—is not so high. Of course, the overall outcome leaves little tolerance for failure. Conversely, officers carrying a baton or a gun, or making arrests, or judges imposing custodial sentences, must apply a higher level of discretion in their interactions with other people. In these cases, high-quality standards are desirable in the execution.

The power of discretion is, in turn, a function of several factors; for example, of the general type of the protection service, of crime pressure, and of the dynamics of goods of protection. For instance, in the cases of freedom of assembly or of the press, the spheres of fundamental rights to be protected are very dynamic, which demands a high level of quality from security forces.

(b) Actual level of quality: There are two dominant determinants of the actual level of quality for protection services. The first one is the qualification; in other words, the *ability* to perform to a certain quality. The second one is any form of control, based on various institutions (regulation, competition, and so on); in other words, the *incentives* to perform to a certain quality. It is these determinants that

¹² A different—and somehow related—field where two quality dimensions are most relevant are legal drugs, including vaccines. The common quality requirement here is that vaccines are 'effective and safe'. So, the quality assessment of drugs—and protection services as remedies of security problems—must address the effectiveness *and possible side-effects*. Regarding those side effects of repressivity (German) public law applies the three criteria to assess the prohibition of excess: suitability, necessity, and proportionality.



drive the costs of protection services, especially if a certain normative minimum level of quality is to be achieved. Additionally, one must be aware that, to a considerable extent, the actual quality level is the result of the institutional environment of those services. Accordingly, the issue of regulation of private security is important and has been subject of much debate (see, for example, Gill and Howell 2012, pp. 13, 20; Button and George 2001; Button 2002, 2007; Button and Stiernstedt 2018).¹³

Table 2 provides an overview of what has been said. It should be noted that this applies *not only to private* security companies, but generally to the production of protection services, may they be publicly or privately produced.

In an ideal world, as a first step, it is the duty of the security principal ‘state’ to define the normatively desirable level of quality. As a second step, it must compare the costs for achieving this level of quality by deploying police forces versus commissioning private options, considering the potentially required staff development measures, education, and training.

As a rule of thumb, we can conclude that, for relatively low levels of required quality, the outsourcing to private security companies is more cost efficient (‘buy’ option). Above a certain quality level (the limit of cost advantage), there is a cost advantage for the ‘make’ option, in other words, for the production of the service by the public police (see Fig. 2). That said, we mainly refer to classic guard and protection services here. One well-known reason is that employees of private security companies often have lower skills levels than police officers and are consequently less costly (see, for example, Ayling 2017, p. 944; de Waard 1999, p. 171). Another reason may concern the transaction costs of different institutional environments (Coase 1937; Erlei et al. 2007): if high quality is needed, the hierarchical control system within public police may allow stricter and thus more cost-efficient quality control.

However, in practice we see that the opposite is often true. Highly specialised and trained security professionals are in high demand. They are not needed at all times but are mission critical in others. For these well-paid professionals, there is a fully private market on which government authorities and critical infrastructure providers, and other security sensitive customers, compete for the services of the security professional. A sector of increasing relevance is cybersecurity, such as IT forensics. The ‘make’ option might even be non-existent, as the required skills tend to flock in good-paying private industry jobs. This pattern can sometimes also be found for robust protection services (such as bodyguards).

Despite such peculiarities, the following pattern appears to be typical: the higher the power of discretion regarding repressive activity, the higher the needed quality and the more recommendable is a production by public officers. Finally, it is important to note that institutions, especially regulations, for both private protection service companies and the police have a noticeable influence on the optimal ‘make or buy’ decision.

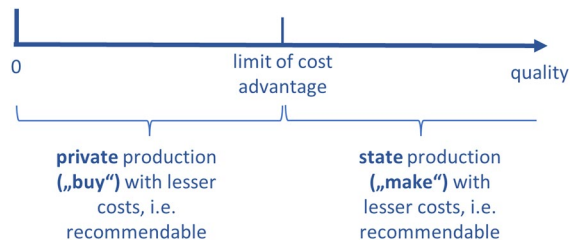
¹³ For Germany this is a current issue, since the new government plans a new and comprehensive Protection Services Act, for which particularly the question of quality standards is an important issue in the debate (SPD et al. 2021; BDSW 2019).



Table 2 Determinants of the normatively desirable and the actual level of quality

	Quality-dimension 1: Efficacy of protection	Quality-dimension 2: 'Side-effect' – Consideration of fundamental rights regarding repressive activity
(a) Determinants of the normatively desirable level of quality:	Expected value of damage function of: value of the protected good threat level	Power of discretion function of: the concrete service crime pressure, dynamic of goods of protection etc
(b) Determinants of the actual level of quality:	Ability: qualification of personnel Incentives: any form of control through institutions (connected to law, rules, standards, regulation, competition etc.)	

Fig. 2 Cost-based recommendation regarding the “make or buy” decision on a quality ray



Discussion for the three different stages of protection services

In this section, the previously developed criteria for provision and production are applied to the three stages of protection services (punishment as deterrence–patrol services–self-defence) and discussed in the context of additional issues, which go beyond these criteria.

Protection services at Stage 1: punishment as deterrence

For protection services related to punishment—and thus ‘close’ to the offender (see again Fig. 1, above)—the state clearly needs to be the provider. The overriding reason for this is *not* the economic public good-characteristic (non-excludability) but that punishment is genuinely repressive. Thus, punishment is at the very core of the state monopoly on the use of force. It appears that the public good-characteristic (non-excludability) of neoclassic economics is an *additional* reason for state provision. Here, various penalty functions must be looked at. Non-excludability is present in the prevention function (in the sense of general deterrence). But even for a possible punishment function of retribution and a possible private willingness of victims or their friends to pay others for this, due to the rule of law, the state takes over the provision of this ‘protection service’ specifically because of the repressive character.



When it comes to the production of ‘punishment,’ things become a bit more complex and the make or buy question needs to be answered according to concrete circumstances. However, what must be considered is that ‘punishment’ is not just one thing. In fact, in its form of statal prosecution, it consists of several services. It is virtually a value chain, consisting of investigation, prosecution, detention, legal hearing, conviction in the court, and monetary fines or transportation and prison (again with several services). For each of these services the ‘make or buy’ question could be analyzed. Obviously, this cannot be done in this article, particularly because the criterion of quality-based cost efficiency depends on many concrete circumstances. Here, only one point is given, and that concerns the rule of thumb presented above: that the higher quality required (regarding the repression-relevant quality dimension 2), the higher the discretion in the interference with fundamental rights of the accused person (the offender). The greatest discretion is used, firstly, in the case of arrest and, secondly, in sentencing. This makes it quite likely that these ‘services’ are—according to the criterion of quality-based cost efficiency—best produced by public servants. In most countries we therefore see neither private bounty hunters nor judges (regardless of the unofficial customs in some parallel societies, which settle conflicts internally in this way).

Conversely, it becomes clear why a functional privatisation is mostly discussed for the ‘partial services’ of operating prisons and prisoner transport (see, for example, McDonald 1994; Jones and Newburn 2004; Jones et al. 2009; Button 2002, 2007, p. 110). For private prisons there is even a historic tradition in England and the United States (McDonald 1994, p. 29; Rieckmann 2017). Against the background of the presented concept and criterion, one highly relevant reason may be that, within these services, the discretion of the personnel regarding the right to interfere in fundamental rights is *simply not very high*. The sensitive, crucial discretionary decisions in the restriction of the prisoner’s fundamental rights were already made in the past. Nevertheless, respect for the fundamental rights of prisoners is a consideration of highest priority (ibid., p. 44), and at least from a European perspective, the risk of inappropriate treatment of prisoners in context of body searches, arrest toughening, and so forth is not negligible.¹⁴

Protection services at Stage 2: patrol services

Patrol services eventually protect the integrity of a plurality of properties from a plurality of potential offenders. In this sense, a function of order is fulfilled in public space. At the level of provision such a service works most efficiently for the society if no proprietor is excluded. Consequently, at this stage it is first and foremost the practical non-excludability (neo-classical public good) which leads to the provision responsibility of the state (state as security principal). In addition, these services are often multifunctional and thus unspecific. Finally, the potential repressivity in the

¹⁴ Finally, it should be noted that this is not intended to advocate the privatisation of prisons, particularly because there are many other aspects to consider in this case. Rather, it is about understanding the criterion of quality-based cost efficiency, using a very vivid example.



execution of the services also justifies the fact that the state is meaningfully responsible for the provision here.

What about the responsibility for production? Firstly, it should be emphasised again that *if* a contracting out takes place, the private security companies are a quasi- ‘tool of the police’ (Stober 1998, p. 59). Moreover, empirically a functional privatisation at this stage of protection services is widespread: for patrol services in public spaces, on streets, in parks, in residential areas, and so forth (see, for example, Noaks 2000, 2008; Button 2007).

From a normative standpoint and with the help of the criterion of quality-based cost efficiency, patrol services appear to have a particular potential for responsible outsourcing. This is particularly the case if and insofar as the service does not lead to a significant repressivity and thus does not require a high (competence and control for) discretion of the security personnel. Thus, the potential lies in what literature calls ‘low-level public security functions’ (see, for example, Dupont 2014, p. 264). This is very often the case for patrol services: “Foot patrol for instance, which is the activity performed most often by contract security guards, basically involves nothing more than keeping an eye out for potential security problems and applying simple remedies to any that are discovered.” (Shearing and Stenning 1981, p. 213) Accordingly, functions like ‘street coaches’ (van Steden 2007, p. 158) appear suitable for an outsourcing. Therefore, it is reasonable for the discretion of private protection services to be contained: “Basically, security employees have the same rights as other citizens and have no police powers such as the power of arrest or the right to carry firearms” (de Waard 1999, p. 148). For those services, this is not only a restriction, but rather a relief to be exempt from such demanding discretionary decisions.

Whether such ‘low-level public security functions’ are sufficient to maintain order obviously depends on the crime pressure. Needless to say, issues become more difficult in volatile and dangerous situations (Sarre and Prenzler 2011; Gill and Howell 2012, p. 21). When the crime pressure or the willingness to use violence on the part of the offenders increases, a higher discretionary competence is needed (see again Table 2, above). Above a certain level, it is likely that a production by public police will be more cost-efficient, considering the required quality level (see again Fig. 2, above).

As we see, patrol services are in many cases non-repressive. But they can lead to repressive activities. It is not least this fact that makes public–private partnerships (PPP) at the level of production particularly plausible. The second important justification for PPP is that the security guarantor “state” is thus able to take over the supervision (control) of the private production of certain protection services.

Protection services at Stage 3: self-defence

The stage ‘close’ to the property (the object of protection) is the ideal–typical location for private provision of protection services. Here, the proprietor himself is rightly the security principal. This is possible and can also be expected by the state



from the proprietor because here there is excludability and rivalry in use (economically private goods). Typically, there is a private willingness to pay. This is the stage of door locks, alarm systems, personal protection (for example, of executives—to distinguish it from cases of public interest as protection of elected representatives, or witness protection), or site security. The calculation of the respective owners is determined by the value of the property, but also by the remaining threat (the residual threat), as this is the quasi- ‘last line of defence’ against the offender (see again Fig. 1, above).

Effectively, there is some sort of balance between the protection services provided by the state and those provided by the private proprietors (Clotfelter 1977). Accordingly, if the state reduces its protection services, the private provision may increase. That is how material privatisation works (Shearing 1992). It should be noted, however, that private demand for protection services may not only increase if government-provided services (of higher preventivity) are reduced. Rather, there are very different causes for private demand. Other determinants are, for example, an increasing (objective) level of threat, an increasing (subjective) threat perception, or even just rising incomes (accompanied by higher threatened values, higher exposure and attraction of criminal attention, and higher available income) to an increase in private demand in the markets for protection services.

What might be the problem of privately provided protection services and self-defence? The central problem is obviously, and again, the potential repressivity of such activities.¹⁵ If the potential repressivity is not contained, anarchy would, in extreme cases, be at the end of a slippery slope. Therefore, the state has a regulative responsibility even where private proprietors are rightly the security principal. As van Steden and Sarre (2007, p. 233) put it: “Governments cannot shirk their responsibilities to coordinate security and policing, whether it is publicly or privately funded.” The potential repressivity of privately provided services is also a reminder to the state to provide a minimum level of protection services at the stages where it is responsible for provision.

Despite the caution one may have about privately provided protection services, one should not underestimate their welfare effect, particularly at this third stage. This applies to society, but also specifically to public budgets. Pushing back private provision of protection services leads to “[...] changing the composition of the state budget by increasing the public resources devoted to security.” (Tulkens and Jacquemin 1971, p. 23).

¹⁵ Beyond this problem, there are mainly three other problems discussed: (1) Demand is characterized by an irrational assessment of the threat (Manning and Fleming 2017). However, a social problem only arises if the corresponding services can in turn have a repressive character. (2) Distribution problems can be addressed (e.g., by de Waard 1999, p. 169). (3) There might be a pure in-efficiency in the balance of public and private provision of protection services (Clotfelter 1977).



Conclusion

Through qualitative argumentation based on institutional economics, the study aims to measure a space within which private and state security responsibilities can be assigned respectively. This implicates basically the involvement of private actors in the social security regime should not be met naively-euphorically nor naively-critically. Such an institutional economic concept can help to illuminate the limits and opportunities in the involvement of private actors and thus to contour a meaningful division of labour between state and market. In any case, a decision on a reorganization of competencies for protection services should always be preceded by a regulatory analysis.

Essentially, it can be said that the state can only provide a general level of security. Demand above and beyond this level is met by the private market. The type of protection services households can and may demand depends on the criteria of excludability, specificity and repression. As a rule of thumb, protective services for which the exclusion of the user is hardly possible or desirable, and where there is low specificity and a high potential for encroachment on the personal rights of the aggressor, should be provided by the state. For protective services for which exclusion is possible and the protection vis-à-vis a threat is highly specific, and where there is most likely little interference with the rights of the attackers, protection services are better provided by private consumers, the owners, and produced by private contractors.

The distinction between provision and production is particularly helpful to achieve the necessary differentiation here. Most articles that are critical of privatisation are essentially interested in whether one sees the public police or private security companies on the street. It would be helpful for many debates if these were more interested in the security principal who commissions the security service. If the state is the security principal, policing is actually 'available to all' (de Waard 1999, p. 169). Interestingly, it was already Shearing and Stenning (1981, p. 209) that pointed out the reason for this: "[...] [T]he role of [...] private security organisation is usually defined principally [...] by its clients."

Criticisms of contracting out or functional privatisation should, in principle, be concrete criticisms of the quality of production. It should also be specified in which quality dimension a deficit is seen: in terms of effectiveness or in terms of side effect (repressivity)? Where one advocates the involvement of private actors (Blackstone and Hakim 2013)—because then the quality (efficiency, innovative strength) of the services would be higher—one must ask whether both quality dimensions are considered. A special case, especially in cyber security, is that of protection services that have a high degree of human capital intensity. In many cases, private sector production is appropriate here.

The limitations of this study also provide an outlook for future research. To mirror the qualitative analysis with empirical evidence, especially with security regimes in Western democracies. A look at specific regions or countries, specific protection services and security problems promises to offer additional insights. This should



also include other determinants than those presented here, such as geographical conditions, and cultural or historical path dependencies.

Declarations

Conflict of interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

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