

INTERNATIONAL COMPARATIVE ANALYSIS OF BUILDING REGULATIONS: AN ANALYTICAL TOOL

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Abstract

The aim of this paper is to introduce a tool for the international comparative analysis of regulatory regimes in the field of building regulation. On the basis of a heuristic model drawn from regulatory literature, a typology of building regulatory regimes is introduced. Each type is illustrated with a number of real-life examples from North America, Europe and Australia. The comparative analysis of different regimes assists policy makers by demonstrating which combinations of regulatory characteristics can provide the best results in particular instances. The typology introduced by the paper assists this process by providing a tool for systematic analysis of complex real-life cases.

Key words

Regulatory theory, regulatory regime, regulatory enforcement, local government reform, comparative policy analysis, building control

International comparative analysis of building regulations: an analytical tool

1 Introduction

Contemporary building regulations in developed countries have their origins in the nineteenth century, when changes in society due to the industrial revolution provided governments with reason to become increasingly involved in the building industry (see, for instance, the development of early building regulations in England: Ash and Ash, 1899; Emden, 1885; France: Risler, 1915; the United States: Gould, 1895; and the Netherlands: Kocken, 2004; Van der Heijden et al., 2007). These changes included the urgent demand for housing for a growing number of immigrants, and the discovery of the relationship between insanitary conditions and public health. Since the nineteenth century, those regulations have been adapted to suit contemporary needs and, globally, current building regulations cover a broad range of topics, including safety, public health, amenity and sustainability (see, for instance, present day building codes in the United States: ABCB, 2004; Canada: CCBFC, 2005; ICC, 2006; and various European countries: Sheridan et al., 2003).

Although they have adapted to modern standards, until recently the traditional framework of building regulations has remained largely unchanged. For example, town-planning regulations and technical building regulations typically continue to operate within separate regulatory codes (ABCB, 2004; CCBFC, 2005; ICC, 2006; Sheridan et al., 2003). In practice the assessment of (planned) buildings prior to occupation and the assessment of existing buildings also typically operate within separate procedural frameworks, as do the assessment of building plans and the assessment of buildings under construction (ibid).

The enforcement of building regulations has also traditionally been carried out by governmental agencies. Notwithstanding the fact that compliance can often be achieved through a wide range of strategies or incentives (cf. Baldwin and Cave, 1999), the enforcement of building regulations traditionally consists of the assessment of building plans, the inspection of buildings under construction and buildings in use by municipal building control departments (BCD): public building control (Hansen, 1985; Meijer et al., 2003; PC, 2004). However, change is in the air.

Since the 1990s the private sector has become involved in the enforcement of building regulations in countries such as Australia (ABCB, 1999), Canada (BCMh, 2007), New Zealand (Hunn, 2002) and parts of Europe (Meijer et al., 2003). Notably, private-sector involvement has taken a variety of forms in different countries and it has been argued that particular arrangements can be expected to result in specific 'directions' of consequences in terms of effectiveness, efficiency, accountability and equity (Baldwin and Cave, 1999; Gunningham and Grabosky, 1998; May, 2007). This has implications for policy makers when selecting the type of arrangement to implement in a specific situation. It also generates a need for empirical research to assist policy makers by comparing real-life arrangements and analysing them in terms of their actual consequences.

Unfortunately, there are difficulties in pursuing this type of comparative research because of the wide variety of real-life arrangements that have been implemented in different jurisdictions. In theory this could include any arrangement between 'totally public' and 'totally private' but, in practice, arrangements often seem to overlap and the boundaries blur (cf. Gunningham and

Grabosky, 1998; Megginson and Netter, 2001; Price and Verhulst, 2000; Sinclair, 1997; Vining et al., 2005). Furthermore, different governments have labelled their own chosen regulatory governance arrangements in different ways. As a result, different labels have been used to describe similar arrangements, while similar labels have been used to describe different arrangements.

This paper therefore aims to develop a typology of arrangements and to introduce a language for comparative policy analysis in the field of building regulations which will assist future research in this area. Although the paper makes no attempt to draw comparisons between the arrangement types themselves, it nevertheless introduces some of the findings from other fields of regulatory research in order to indicate the possible outcomes of particular regimes. In the following section a heuristic framework underlying the typology of regulatory regimes is introduced. The different types of regime are then presented and illustrated with a variety of examples. Finally, the typology and its use for comparative analysis in the field of building regulations are discussed.

2 Regulatory regimes: a heuristic framework

In order to make regulations work effectively it is generally understood that they need to be enforced (e.g. Giddens, 1984, 18; Weber, 1964 [1921], 126-153). The complete framework of regulation and enforcement as a means for achieving regulatory goals can be referred to as a 'regulatory regime' (May, 2007, 9). It is possible to identify a number of different characteristics of regulatory regimes, including the quality of regulations, enforcement strategies, enforcement styles and enforcement actors.

Firstly, studies of *the quality of regulations* often focus on whether rules will lead to compliance (e.g. Bardach and Kagan, 1982; Griffiths, 2003). The characteristics analysed are adequacy, feasibility, legal certainty and adaptability (Van Rooij, 2006, 32-43).

Secondly, the term *enforcement strategy* is used to describe the tactical choices made by enforcement agencies and the type of actions these agencies take (e.g. Hawkins, 1984; Kagan, 1994; May and Burby, 1998). Tactical choices refer mainly to issues such as allocating resources, setting targets, and monitoring outcomes. Types of action refer mainly to issues such as sanctions and incentives (e.g. Baldwin and Cave, 1999).

Thirdly, *enforcement style* describes the relationship between inspector and inspectee (e.g. Hutter, 1997; Kagan, 1994). A wide variety of possible enforcement styles is described. Based on the responsive regulation philosophy (Ayres and Braithwaite, 1992), most styles seem to fit onto a sliding scale defined by a consultative, facilitative approach at one end to a rigid, legalistic approach at the other end (cf. May and Wood, 2003).

Fourthly and finally, studies have focused on the so-called *enforcement actors*. These are the parties that can be assigned or delegated tasks and responsibilities in regulation and enforcement. Contemporary literature identifies a wide range of parties that are or may be involved in regulation and enforcement, such as governmental agencies, corporate organisations, professional bodies, and public interest groups (e.g. Gunningham and Grabosky, 1998).

The study of these characteristics can certainly provide a wealth of insight into the nature of different regulatory regimes. However, the various characteristics within a particular regime do not exist in isolation but influence and are influenced by each other. Leading works on regulatory governance (Ayres and Braithwaite, 1992, chapter 4; Gunningham and Grabosky, 1998, chapter 6) argue that more efficient and effective regulatory governance should involve a mix of certain types of regulations, enforcement strategies, enforcement styles, and enforcement actors.

Nevertheless, there is much debate as to how, precisely, these ingredients should be combined to produce optimum effectiveness and efficiency (cf. Decker, 2007; Nielsen, 2006; Sparrow, 2000). This question can only be answered through comparative research into the relationships between different regime-design combinations and their respective regime-outcomes. Due to the wide variations of regime-design combinations introduced in different jurisdictions a mechanism exists for the empirical study of these issues and the variations between jurisdictions provide what (Levi-Faur, 2004) describes as ‘the most powerful engines of causal analysis’ (Levi-Faur, 2004).

In this context it can be seen that the real strength of the ‘regulatory regime’ concept actually lies in its ability to provide a tool for the comparative analysis of combinations of the various characteristics rather than simply as a taxonomy of the characteristics themselves. The heuristic framework that underlies the typology introduced in the remainder of this paper builds on the different levels of tasks and responsibilities that can be assigned to different enforcement actors.

The element at the top-level of the framework is the arrangement of tasks and responsibilities regarding setting regulations – I shall term this level *regulation*.

The element at the middle level of the framework is the arrangement of tasks and responsibilities regarding setting standards for enforcement. The issues at this level are the criteria that have to be met in order to be allowed to enforce regulations and oversight of enforcement – enforcement itself is often enforced as well; to avoid confusion in terminology I refer to the ‘enforcing of enforcement’ as *oversight* (cf. Cohen and Rubin, 1985, 176). This level is termed *enforcement criteria and oversight*.

The element at the lowest level of the framework is the arrangement of responsibilities regarding the actual execution of enforcement tasks. The issues at this level are the relationship between enforcer and regulatee and the enforcement style used. This level is termed *execution of enforcement tasks*. Tasks and responsibilities can be allocated to public and/or private-sector actors at each of the three different levels in the framework.

3 A typology of regulatory regimes

The typology introduced in this part of the paper involves a gradual shift from a regime in which all responsibilities and tasks relating to regulation and enforcement are allocated to public-sector actors to one in which all responsibilities and tasks are allocated to private-sector actors. This is developed by initially assigning all tasks and responsibilities to governmental actors, a traditional, ‘pure public’ set-up, and then shifting these duties and responsibilities one by one, and level by level, to private-sector actors.

A total of five regulatory regimes are presented here: public, prescribed co-regulation, conditional co-regulation, substitute co-regulation, and private. The term *co-regulation* is used to indicate regimes that combine both public and private-sector involvement (cf. Gunningham and Grabosky, 1998, 55). Each of these regime types is illustrated with real life example, from North America, Europe and Australia. In order to illustrate the building regulatory regimes, I have selected cases from journal papers, governmental reports and websites of the regulatory agencies mentioned. It goes without saying that the regulatory regimes presented are truly ideal-type normative models.

Public regime

The first type, the *public regime*, can be compared with a traditional command-and-control regime. All responsibilities for setting building regulations, setting the rules and criteria which relate to enforcement, overseeing enforcement, and executing enforcement lie with governmental actors. An enforcement relationship exists between enforcer and regulatee and an oversight relationship may exist between or within governmental bodies. The public regime is illustrated in Figure 1.

Figure 1 Public regime

LEVEL	ACTORS	
	PUBLIC SECTOR	PRIVATE SECTOR
REGULATION	X	-
ENFORCEMENT CRITERIA AND OVERSIGHT	X	-
EXECUTION OF ENFORCEMENT TASKS	X	-

This type of regime can be found in many European countries (Meijer and Visscher, 1998) and in parts of Australia (ABCB, 1999), the United States (LaFaive, 2001) and Canada (Hansen, 1985). However, true pure public regimes appear to be dying out. As the different illustrative examples in this paper show, pure public regimes are being replaced in many countries by co-regulatory regimes.

Public regimes can be understood as the ‘traditional’ approach to building regulatory enforcement. Under such regimes a higher governmental body, such as a national or federal agency, lays down building regulations, and a lower governmental body, such as a local or municipal agency, is then responsible for regulatory enforcement. Regulatory enforcement is often carried out through a building plan assessment and on-site construction work assessment. Public regimes are found in Denmark and the Netherlands (Meijer et al., 2003). However, the possibility of involving certified private-sector agents in assessing building plans has recently been introduced in the Netherlands.

From a recent analysis of the Dutch regime (Van der Heijden et al., 2007), it emerged that Dutch municipal building control departments (BCDs) face problems in the enforcement of public building regulations. BCDs were found to be carrying out their legal tasks, including assessing building plans and construction work and issuing permits, in various ways. Process times, assessment criteria and the fees charged were found to differ so widely that a ‘national process’ could not be identified. BCDs

also appeared insufficiently equipped to assess complex building work, and some smaller municipalities made it clear that some legal tasks, especially the assessment of buildings under construction, were not carried out at all.

These findings are partly in line with general criticisms of pure public regimes. Critics of this strategy state that it is ineffective and expensive. They argue that it suffers from problems with enforcement, including a lack of technical knowledge on the part of the enforcer, and that it focuses excessively on ‘end-of-pipe’ solutions (cf. Fairman and Yapp, 2005, 493). The regime is said to be prone to ‘regulatory capture’ when the relationship between the regulator and the regulatee becomes too close (Baldwin and Cave, 1999: 36-37). Furthermore, the regime can be subject to legalism (ibid, 37-38) when the proliferation of rules leads to over-regulation which may strangle innovation in the market. Subsequently, regulators may face the difficulty of translating public goals into technical standards – what exactly is a safe, healthy and sustainable environment? Finally, the enforcement of technical regulations can be difficult or expensive due to the complexity of these rules, and governmental agencies may lack the resources to enforce these (ibid, 38-39). Nevertheless, the advantage of a regime like this, from the public sector’s point of view, is that the government retains full political power (ibid, 35).

Prescribed co-regulation regime

The second regime type, *prescribed co-regulation*, is characterised by a government that takes full responsibility for setting regulations and setting standards for overseeing enforcement. The actual execution of enforcement, however, is delegated to private-sector actors. Within this regime, governments can contract out enforcement, or enter into agreements (‘covenants’) with private-sector actors. The involvement of private-sector actors occurs according to certain clearly defined criteria which regulate their participation and administration while allowing them to enforce the regulations. In this way, governmental actors retain indirect responsibility for the execution of enforcement.

An enforcement relationship exists between enforcer and regulatee and an oversight relationship may exist between or within governmental bodies. Further supervisory relationships arise at the level of execution. For example, in order to ensure that its own responsibilities are fulfilled, the indirectly responsible governmental actor may want to supervise contracts or covenants made with the private actors, or it may want to oversee the fulfilment of the participation and administration criteria. Internal supervision may also exist within private and/or third-sector actors. The prescribed co-regulation regime is illustrated in Figure 2.

Figure 2 Prescribed co-regulation regime

LEVEL	ACTORS	
	PUBLIC SECTOR	PRIVATE SECTOR
REGULATION	X	-
ENFORCEMENT CRITERIA AND OVERSIGHT	X	-
EXECUTION OF ENFORCEMENT TASKS	-	X

Examples of this regime type can be found in the United States, Australia, Canada and various European countries. In regulatory literature, this regime-type is occasionally found to result in net gains in effectiveness when compared to a 'pure' public regime. Ayres and Braithwaite (1992, 104), for example, find that 'corporate inspectors are better trained and tend to achieve a greater inspectorial depth'; and Baldwin and Cave (1999, 126) note that corporate bodies 'can usually command higher levels of relevant expertise and technical knowledge than is possible with independent regulation'. Traditional public building authorities often have a limited number of staff, and prefer to hire generalists than specialists, while private-sector actors are able to specialise.

This regime-type is also found to result in net gains in technical efficiency compared to a pure public regime. These efficiency gains can result from the different approach that private-sector actors take to enforcement tasks, or the different motivations they may have. For instance, a municipal building control officer's income does not rise in proportion to the amount of work he or she carries out, while a private inspector's income does (cf. Leibenstein, 1966). Gunningham and Grabosky (1998, 52), for example, state that private-sector involvement in a regulatory regime 'offers greater speed, flexibility, sensitivity to market circumstances, efficiency, and less government intervention than command and control regulation'.

An illustrative example of a covenant, or agreement, between private and public actors designed to achieve compliance with building regulations at the execution level is the case of the John Hopkins University and the building authority of Howard County in the US (Loesch and Hammerman, 1998). The University frequently has to carry out in-house alterations to meet certain research goals. In order to overcome issues such as delays resulting from traditional permit review processes, the University entered into an agreement on compliance with building regulations with the County authorities, and a 'Master Building Permit' was drawn up. The agreement relies on a prescribed quality assurance model which includes procedures for design and construction approval reviews based on the building regulatory framework, and a prescribed in-house supervision model to certify that alterations have been carried out according to approved plans. Occasionally the County carries out spot checks, inspections and audits. According to Loesch & Hammerman (1998), this agreement benefits both the University, which saves time by bypassing traditional plan review and approval processes, and the County which saves resources.

However, it is not only gains which are ascribed to this regime-type. The introduction of private-sector involvement may potentially introduce conflicts between private and public interests (cf. DeMarzo et al., 2005, 688; Gunningham and Grabosky, 1998, 52; Hodge and Coghill, 2007). The competition for clientele in particular may make the regime susceptible to 'regulatory capture' where either the relationship between private-sector inspector and his or her clients becomes too close, or clients may 'shop around' for an inspector that suits their needs (cf. Baldwin, 2005, 129-130; Scholz, 1984, 401). As a result, an additional layer of supervision or oversight may be needed to monitor the enforcement by private-sector actors, and this could reduce the impact of gains in effectiveness and efficiency (cf. Cohen and Rubin, 1985).

An example of regulatory capture can be found in Germany, where private-sector check engineers are allowed to carry out building plan assessment. This check engineer may act on behalf of public authorities and, as such, may verify whether design and structural work conforms to legal requirements (Meijer et al., 2003, 98). The qualification requirements are laid down in the building regulatory framework, as are administration requirements (Zander, 2005). The check engineer is fully responsible and liable for the structures he or she inspects (ibid). However, the collapse of a skating rink in Germany made it clear that this regime involves implicit dangers. Reports on the court-case of this incident showed that the check engineer had withheld essential information which revealed issues about the structural safety of the building (der Spiegel, 2006, 2008). A lack of oversight of this private check engineer had allowed him this freedom, while commercial pressure had provided a motive.

Another potential outcome of this regime is a blurring of liability. An example to illustrate this point is found in the City of Vancouver. The City has established a regulatory regime, the Certified Professional Program, under which an individual can apply to become a Certified Professional (CP). To become a CP, an individual has to meet criteria set and overseen by the City. Once certified, a CP is allowed to enforce public building regulations, but only for complex construction work. The City of Vancouver has laid down protocols for building plan assessments, site controls and final inspections to guide the work of a CP (OHCS, 2007). The City also oversees each enforcement task carried out by a CP and the final decision on compliance with regulations is made by the City's building officials. An analysis of the CP program (Richmond, 1999) shows that processing times were shortened by the introduction of the CP program. However, liability appears to be a concern (ibid, 6) since the City's role can be unclear. On the one hand, the CP program partially relieves the City of assessing building plans; on the other hand, the City still is responsible for issuing permits. Liability issues could arise if the City approved a building plan or wrongly issued CP documentation. To what extent can the City be held responsible? This issue bears a resemblance to 'the problem of many hands' (Thompson, 1980).

Furthermore, the duplication of tasks could lead to a loss of allocative efficiency (Leibenstein, 1966): welfare maximisation could be optimised if unique resources were used for unique goals. In the example of the City of Vancouver, for instance, the municipal building official has to carry out a number of administrative tasks in order to issue a permit based upon a CP's inspection report. Some of these tasks are also carried out by the CP. However, the advantage of this partial duplication of tasks is that the City retains a larger degree of control over the CP's enforcement process.

Conditional co-regulation regime

The third regime-type, *conditional co-regulation*, is characterised by a government that takes full responsibility for setting regulations. Responsibility for setting criteria for and overseeing the enforcement of the regulations is delegated to private-sector actors, although government places conditions on the activities of these private-sector actors in this area. Thus, the government has indirect responsibility and private-sector actors, when participating, have direct responsibility for the level of 'enforcement criteria and oversight'. As such, the government outlines its conditions and leaves it to private-sector actors to fill in the conditions set, for example with regard to the participation and/or administration criteria. Responsibility for the execution of enforcement lies

solely with private-sector actors. The middle level of the regimes becomes a ‘public-private partnership’.

An enforcement relationship exists between enforcer and regulatee and an oversight relationship may exist between the indirectly responsible governmental actor and the directly responsible private-sector actors. Furthermore, supervision relationships, oversight, may exist between or within private actors. The conditional co-regulation regime is illustrated in Figure 3.

Figure 3 Conditional co-regulation regime

LEVEL	ACTORS	
	PUBLIC SECTOR	PRIVATE SECTOR
REGULATION	X	-
ENFORCEMENT CRITERIA AND OVERSIGHT	X	X
EXECUTION OF ENFORCEMENT TASKS	-	X

Examples of this regime-type are found in Australia, New Zealand and various European countries. This regime-type is sometimes found to result in effectiveness and efficiency gains when compared to a ‘pure’ public regime, as was the case with the prescribed co-regulation regime-type previously discussed (see also, DeMarzo et al., 2005; Lenox, 2006; Schulz and Held, 2004).

An example which illustrates such a ‘partnership’ between the government and private sector within a conditional co-regulation regime is the case of the ‘P-mark’ in Sweden (Anneling, 1998). The P-mark model is a certification regime developed by a Swedish government body, *Statens Planverk* (SP), in cooperation with the building industry, insurance companies and other interested parties. Under this regime, manufacturers can be certified for the construction of prefabricated detached houses. The P-mark is used to show that a product meets the requirements laid down in laws, standards or established regulations. Performance criteria and certification criteria have been drawn up by the cooperative. The performance criteria relate to the Swedish building code, while the certification criteria relate to the quality system of the manufacturer and in-factory compliance assessment; test methods have been drawn up to verify compliance (Horvat and Fazio, 2005). Twice a year SP carries out an unannounced inspection at the factories and five percent of all finished houses are also inspected annually by SP.

In the Australian state of Victoria, consumers are also allowed the choice between engaging a municipal building control surveyor and seeking the same service from a private building control surveyor known as a ‘private certifier’. In Victoria, the public and private sectors have to compete for clientele (VCEC, 2005). Private certifiers and municipal building surveyors have the same responsibilities and are allowed to carry out the same tasks. Private certifiers have to meet criteria set by the Building Practitioners Board, an independent regulatory agency whose stakeholders represent private-sector organisations. This Board also oversees the private certifiers’ practices, but

receives administrative support from a ministerial department to do this: a ‘public-private partnership’. A review of inquiries showed that accountability is considered an issue within the regime (VCEC, 2005, 82): private certifiers are often considered to be subject to commercial pressure and conflicts of interest, which may sometimes lead them to cut corners. However, compared to other Australian regimes under which private certifiers are overseen by public agencies, the background of the Building Practitioners Board is regarded as an advantage in the regime’s model of oversight (PC, 2004): they may have a better knowledge of the field than public agencies. This reasoning appears to be consistent with findings by Baldwin and Cave (1999, 127), who note that private-sector regulators ‘with their easy access to those under control, experience low costs in acquiring the information that is necessary [...] and enjoy the trust of the regulated group’ (see also, Bardach and Kagan, 1982, 219; Gunningham and Grabosky, 1998, 44-47).

Examples of similar ‘competitive relationships’ between the public and private sectors can be found in the introduction of private inspectorates in England and Wales (Baiche et al., 2006; Imrie, 2004), and New Zealand (May, 2003). In England and Wales, economic pressure was found to ‘have a deleterious effect on the quality of inspections’ (Baiche et al., 2006, 280) since the chance of losing a client means that inspection officers only use harsher means of enforcement and penalties as a last resort (Imrie, 2004). In New Zealand, meanwhile, developers chose private-sector involvement *en masse* because private inspectors took a less strict approach to enforcement than their municipal counterparts (May, 2003).

A building regulatory regime that seems to differ from these examples, when viewed from the outside, but which has a similar set-up, can be found in France. The French building regulatory framework is characterised by the significance of insurance. The French regime stipulates compulsory insurance for the various actors involved when a client and a builder enter into a contract; all parties involved, including the owner, vendor and developer, must take out this insurance covering the liability attributed to them by the Civil Code. This compulsory insurance has a duration of ten years and covers issues such as structural elements, electrical and other installations (Baccouche and Elias, 1998; Meijer et al., 2003). Insurers often require that a technical inspection is carried out by a privately owned technical inspection body as a prerequisite for issuing an insurance policy. Duties and responsibilities regarding technical inspection are laid down in the *Spinetta* Law. The *Centre Scientifique et Technique du Bâtiment* (Scientific and Technical Centre for Buildings), a non-governmental organisation, supervises the work of these technical inspection bodies. Within the French regime, local governments have limited enforcement tasks. These are restricted to building plan control, environmental conditions, zoning and town planning issues (Baccouche and Elias, 1998).

Another issue that may arise under this regime-type is a loss of equity. Service provision may not be equally accessible for different groups, or groups may not be equally subject to enforcement. The general notion that involving the private sector in a regulatory regime could result in such a decline of equity is mentioned by Burkey and Harris (2006). In the Australian case introduced above, it was found that private certifiers seem to ‘cream’ the market (cf. Bailey, 1988, 304; Stoker, 1998, 23) leaving municipalities with the more difficult and less profitable jobs (VCEC, 2005, 82). As Wilson (1989, 169) has noted, municipal agencies must often ‘cope with a clientele not of their own choosing’ whereas private-sector actors can choose their clientele.

Substitute co-regulation regime

The fourth type of regime, *substitute co-regulation*, is characterised by a government that takes full responsibility for setting regulations but private-sector actors are given responsibility for setting criteria for and overseeing enforcement, as well as the responsibility for actually executing enforcement. The regulations are not actively enforced unless private-sector actors actually take responsibility for overseeing enforcement and execute enforcement. Private-sector actors may nevertheless see it as in their interests to enforce regulations for a variety of reasons: to reduce the risks associated with free-market trade; to distinguish themselves from other actors; because they expect a governmental enforcement framework to be put into action if they do not take action themselves; or because private-sector actors may take responsibility for enforcement as they feel the need for guaranteeing particular public rights (cf. Baldwin and Cave, 1999, chapter 10). If this is done, an enforcement relationship may exist between enforcer and regulatee and supervisory relationships, oversight, may exist between and within private-sector actors. The substitute co-regulation regime is illustrated in Figure 4.

Figure 4 Substitute co-regulation regime

SUBSTITUTE CO-REGULATION LEVEL	ACTORS	
	PUBLIC SECTOR	PRIVATE SECTOR
REGULATION	X	-
ENFORCEMENT CRITERIA AND OVERSIGHT	-	X
EXECUTION OF ENFORCEMENT TASKS	-	X

Potential outcomes of this regime-type are described in the regulatory literature as ‘going beyond compliance’ or ‘win-win situations’ (cf. Ayres and Braithwaite, 1992, 98; Gunningham and Grabosky, 1998, 413-422).

This regime-type appears to be a popular structure for various kinds of private-sector related initiatives, such as assessment tools and certification programmes that aim ‘to reach beyond the mere requirements of building codes’ (Horvat and Fazio, 2005, 76). For example, the Building Research Establishment Environmental Assessment Method (BREEAM), an environmental assessment method for buildings, developed in the UK in the 1990s. BREEAM is developed by the BRE (Building Research Establishment), a subsidiary company owned by a trust in which members represent specific sets of interests, such as built-environment professionals and contractors. BREEAM establishes benchmarks for environmental performance by rating buildings on a four-point scale. Assessments are carried out by independent assessor organisations, which are licensed and trained by BRE. Assessment criteria are based partly on the English and Welsh Building Regulations (BRE, 2006). After assessment, a certificate stating the rating is issued. However, as the certificate has no legal status it can only be used for promotional purposes (Horvat & Fazio 2005). Versions of BREEAM and similar tools have been, or are being developed, in Hong Kong, Australia, Canada and the US (cf. Cole, 1998; Cole, 2000; Craweley and Aho, 1999).

The downside of this regime is that the government loses its grip on the actual impact which the regulations have. Outcomes cannot be managed by means of enforcement by governmental actors. Doyle (1997, 42) assumes that different forms of regulation and regulatory enforcement ‘work best when they co-exist; that is, two-tier regulation is more likely to be superior [to single-tier regulation]’. On the basis of these notions, it may be supposed that substitute co-regulation will work best when it is used to supplement one of the previously described regimes, either ‘pure’ or hybrid forms of governance.

An example of such a two-tier regulatory regime can be found in the recently introduced ‘hidden defects insurance’ in the Netherlands. This covers costs resulting from hidden defects which originate from the original construction of the building, but which only reveal themselves after the building is occupied. Insuring these risks was impossible before the introduction of this type of insurance (Van den Berg and Overtom, 2006). Before issuing a policy the insurer will require an independent private actor to check the work during design and construction as well as a document of approval once the building is finished. The grounds for these control tasks are Dutch building regulations as laid down by national government, the Building Decree, and where applicable, additional European norms.

Private regime

The final regime is characterised by the absence of any government involvement. It is left solely to private-sector actors to set and enforce building regulations, and if this is done, the regulations will not be statutory. Private-sector actors may find that it is in their interests to set up and enforce regulations, or take responsibility to guarantee certain public interests by setting and enforcing regulations. If this is done, there may be an enforcement relationship between the enforcer and regulatee and a supervisory relationship, oversight, between and within private-sector actors. The private regime is illustrated in Figure 5.

Figure 5 Private regime

PRIVATE REGIME LEVEL	ACTORS	
	PUBLIC SECTOR	PRIVATE SECTOR
REGULATION	-	X
ENFORCEMENT CRITERIA AND OVERSIGHT	-	X
EXECUTION OF ENFORCEMENT TASKS	-	X

Private regimes in a built environment context have been described by Bunz et al., 2006 and Cole, 2000 and are often seen to display strong similarities with assessment tools and certification programmes introduced under the substitute co-regulation regime. The only respect in which they differ is that the initiatives do not refer to public building regulations.

Other examples can be found in regulations drawn up by private-sector agencies to harmonise issues that have not been regulated through public legislation. In the Netherlands the national organisation for standardisation (NEN), a private-sector company, provides guidance when parties enter into an agreement on products, procedures or processes and publishes these agreements (NEN, 2006). Once the agreement is set, it is known as a standard, and these standards can be considered as private-sector regulations. NEN has been so successful in developing standards that many Dutch public building regulations refer to NEN standards as the minimum technical requirements that must be met.

Note that this type of private-sector regulation through the International Organisation for Standardisation (ISO) does have a considerable impact on the building industry worldwide. The well-known ISO 9001 and ISO 14000, both a generic set of requirements for implementing a management system, the former concerning quality, the latter concerning environmental issues, appear to have a particularly strong impact on the construction industry worldwide (Ball, 2002; Chini and Valdez, 2003; Pheng and Wee, 2001; Walker, 2000).

4 Conclusion and discussion

This paper has drawn on the regulatory literature to build a general heuristic framework that can be applied in the comparative policy analysis of building regulatory regimes. This framework has been applied to draw up a typology of regulatory regimes. Based on illustrative examples and commentary within the literature, the potential impact of the regimes has been discussed. The framework and its related typology will ultimately be utilised by the author as part of an extended empirical investigation and the findings from that enquiry will be published at a later date.

As the reader will have noticed, the regulatory regimes introduced are ideal type normative models. Real-life cases will prove more complex and difficult to categorise as the illustrative examples have shown. For example, in reality, a wide arrangement of actors can be involved in the regulatory regimes. These include trans-national governments, national, regional and local governments, industry players, insurance companies, certification and audit organisations, consumer interest groups and so on. Together, these actors make up the organisational field in which the regulatory regime functions (cf. DiMaggio and Powell, 1983). Due to the complexity of real-life cases, the specific actors involved cannot be set *a priori* but must be defined on the basis of empirical investigation (ibid, p. 148). When analysing more complex forms of governance, for example trans-nationalisation, actors can be added to the schemes introduced by adding extra columns. It should also be noted that the normative types introduced are limited by their focus on regulatory regimes in developed countries. Their usefulness may be more limited for developing countries (cf. Haines, 2003). It should also be noted that in reality, as the examples have shown, different regimes are often implemented side by side, which might result in different relationships between actors within these regimes.

Nevertheless, precisely because of the complexity of reality, the framework and typology will provide an essential tool in the author's proposed comparative analysis of regulatory governance within the built environment. Comparative analysis of different regimes is expected to identify causal relationships between regime-designs and regime-outcomes. The understanding thereby generated

will assist policy makers when faced with the difficult choice of implementing new regulatory tools or of overhauling an existing regulatory regime.

However the extent to which cases are genuinely comparable presents a particular difficulty for research based on comparative analysis. For example, when seeking to analyse different certification initiatives, this particular label is soon discovered to have different meanings in different jurisdictions, as the as the illustrative examples in this paper have shown. Comparing regimes because they are similarly labelled may in fact be like comparing apples and oranges simply because they are both labelled 'fruit'. Comparing different varieties of apples, however, may provide an understanding of which tastes best, or is the most resistant to parasites and why.

This paper has argued that the same principle applies to regulatory regimes. It has briefly discussed the possible regime-outcomes of some of the examples used to illustrate the typology. These discussions suggest that both advantages and disadvantages are associated with certain regime types. The author's empirical research will establish the value of this initial exercise. The challenge for governments when choosing to implement a certain regime therefore appears to involve striking a balance between these advantages and disadvantages. The empirical research aims to identify the actual advantages and disadvantages associated with particular organisational structures of regulation and enforcement and to add to our general understanding of the effects of introducing public and private-sector actors in regulatory governance within the built environment.

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