

## The Impact of Regulatory Policy on Individual Behaviour: A Goal Framing Theory Approach

# **The Impact of Regulatory Policy on Individual Behaviour:**

## **A Goal Framing Theory Approach**

**Julien Etienne**

---

### **Contents**

Abstract .....	1
Introduction .....	2
Overview of the framework .....	3
First step: a model of choice with multiple goals .....	5
Basic principles of goal framing theory .....	5
Framing and the respective influence of foreground and background goals .....	6
Frame salience and frame displacement .....	7
Second step: a theory of goals .....	7
The hedonic goal .....	8
The gain goal .....	8
The normative goal .....	9
Third step: causal mechanisms .....	9
First mechanism: relative prices .....	10
General presentation .....	10
Hedonic prices .....	11
Gain prices .....	12
Normative prices .....	12
Second mechanism: goal signalling .....	13
General presentation .....	13
Hedonic signals .....	14
Gain signals .....	14
Normative signals .....	15
Cumulated mechanisms .....	16
Conclusion .....	16
References .....	18

The work was part of the programme of the ESRC Centre for Analysis of Risk and Regulation.

Published by the Centre for Analysis of Risk and Regulation at the  
London School of Economics and Political Science  
Houghton Street  
London WC2A 2AE  
UK

© London School of Economics and Political Science, 2010

ISBN 978-0-85328-401-7

All rights reserved.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, without the prior permission in writing of the publisher, nor be otherwise circulated in any form of binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

Printed and bound by Kube, January 2010

# **The Impact of Regulatory Policy on Individual Behaviour: A Goal Framing Theory Approach**

**Julien Etienne<sup>\*</sup>**

---

## **Abstract**

This paper presents a theoretical framework for analysing regulatees' responses to behavioural expectations set for them in public regulation. It identifies the main variables and mechanisms through which regulatory policy may influence individual choices. The article builds on Siegwart Lindenberg's goal framing theory. The theoretical argument is supported by an extensive range of examples borrowed from the empirical literature on regulatory compliance. As such, it fills an important lacuna of compliance studies: the absence of a formal theoretical base capable of encompassing the numerous findings of the empirical literature. The theoretical framework also gives a consistent account of the cumulated influence of heterogeneous motives on (non)compliance decisions, and thus provides a better understanding of responses to regulation than there was before.

---

<sup>\*</sup> I wish to thank Richard Balme, Mathilde Bourrier, Sharon Gilad, Olivier Giraud, Bridget Hutter, Patrick Le Galès, Siegwart Lindenberg, Ronald Mitchell, Gerhard Schnyder and three anonymous reviewers for their helpful comments and criticisms on successive drafts of this paper. The usual disclaimer applies.

## **Introduction**

An impressive amount of empirical work on regulatory policy and its impact on regulatees has accumulated over the last three decades. And yet, regulatory compliance theory remains underdeveloped (Brehm 1996; Haines 1997; Hutter 2001). As Fiona Haines aptly underlined: ‘The tendency is for each study to simply add to the list of empirical research, a list which grows longer, more complex, and packed ever more densely with insights that are unable to be accessed easily.’ As she further argued: ‘unless this growing list of research touches base with some formal theoretical base, repetition of insight is likely to characterize the regulation debate for some time to come’ (1997: 234). More than a decade after Haines’s plea, there is still no consistent formal theory capable of synthesising the main findings in the field.

To understand why it is so, one must acknowledge the complexity of the issue. In fact, responses to regulation may be linked to a wide variety of causes (Coombs 1980). Some responses can be ‘automatic’ behaviours, the product of habits and routines. Some others are purposeful action, but rather than materialising motives to comply or not comply with regulation, they are principally the results of incapacity, incompetence, ignorance or misunderstanding of regulatory prescriptions (e.g. Brehm and Hamilton 1996; Hutter, 2001). The remaining lot can be more confidently explained by individual motives to comply or not comply (self-interest, moral obligation such as duty or trust, fear of sanctions, etc.).

To deal with this complexity, and in agreement with the Weberian approach to explaining behaviour, most compliance theorists explain regulatees’ responses as purposeful action, considered as a satisfactory approximation for actual action processes. However, a problem they have encountered was to take into account the empirical literature on compliance motives. In fact, the latter are not only plural and diverse but they also operate in combinations rather than exclusively: self-interest, duty, fear, anger, trust, among others together influence responses to public regulation (int. al. Alm et al. 1995; Gezelius 2002; Hutter 2001; May 2005; Parker 1999, 2006; Wenzel 2004).<sup>1</sup>

As a partial answer to these findings, compliance theorists have generally chosen to combine several models of action, which taken individually, overlook the complexity of motives observable in realistic settings, but, taken together, could account for most observations. The best known example is the work of Ayres and Braithwaite (1992). It combines rational choice theory (game theory) with an ‘idealist’ theory of empowerment predicting that norm internalisation in trust relations would overcome temptations to defect. This compromise between ‘a logic of consequences’ and ‘a logic of appropriateness’ (Mitchell 2007) is representative of many influential contributions in the regulation literature (int. al. Gunningham and Grabosky 1998; Hood 1986; Kagan and Scholz 1984; Mitchell 2007; Scholz 1984; Sherman 1993). Correlatively, many

---

<sup>1</sup> In other words, compliance and non-compliance issues are characterised by ‘equifinality (many alternative causal paths to the same outcome) and multifinality (many outcomes consistent with a particular value of one variable)’ (George and Bennett 2005: 10).

have associated models of action with typified groups. For instance, the choices of ‘amoral calculators’ (Kagan and Scholz 1984), ‘bad apples’ (Bardach and Kagan 2002) or ‘opportunists’ (Hood 1986) have been explained as egoistic and utilitarian. On the contrary, ‘virtuous’ actors, ‘citizens’ or ‘good apples’ have been often assumed to follow norms and act in accordance to their ‘feeling of duty’.

These writings have three main shortcomings. Firstly, they are theoretically inconsistent and unrealistic. Secondly, they cannot explain how motives interact with each other. And thirdly, although they can describe behavioural changes resulting from actors switching from one logic of action to another as for instance when self-interest ‘crowds out’ norm orientation (e.g. Frey 1997; McGraw and Scholz 1991: 475-77; Parker 2006: 611-2), they cannot explain them.

In this paper I propose an alternative, individualistic framework for analysing the influence of regulatory policy on regulatees and accounting for the latter’s responses to the behavioural expectations addressed to them by regulators. The framework has been set to answer the two interrelated issues underlined before: to provide a theoretical base for compliance studies capable of synthesising published findings; and to take up the multifarious and interactive motives of (non)compliers without compromising on internal consistency.

The paper builds on Siegwart Lindenberg’s goal framing theory (GFT). Lindenberg’s is a theory of individual action that strives to integrate the diversity and plurality of human motivations. Taking stock of psychologists’ findings on decision-making, and building especially on prospect theory (Kahneman and Tversky 1979), Lindenberg intends to overcome some of rational choice’s limits while keeping a methodological individualistic approach. Here, I am reformulating this path-breaking theory and providing various additions and modifications. The theoretical argument is supported by a number of examples and references from the compliance literature. This is to demonstrate the framework’s capacity to synthesise results from the regulation studies and thus to answer Haines’ plea.

## **Overview of the framework**

In various ways (in writing, image and/or sound), regulators communicate behavioural expectations to regulatees; they call on them to choose or reject one of the options available for the performance of a particular task. Therefore, compliance can be understood as behaviour fitting these behavioural expectations.<sup>2</sup> But regulatory policy does more than address expectations to regulatees: it also influences the way they assess and choose between alternatives.

---

<sup>2</sup> This definition, which is quite close to Coombs’ (1980), is more inclusive than ‘conformity with the law’ (Hutter 1997: 16-17) and less normative than ‘conformity with policy objectives’. In fact, regulatees may be asked to conform to expectations communicated in non-legal form (Hopkins 1994; e.g. Thaler and Sunstein 2009). Besides, the behavioural expectations communicated to regulatees may not be appropriate or sufficient to reach policy objectives (Coombs 1980; e.g. McBarnet and Whelan 1991).

This affects two main variables: the regulatee's goals, and the regulatee's options (among which one could identify various degrees of compliance and non-compliance). It is assumed that the regulatee will pick the alternative that best satisfies his/her strongest goals. Regulatory policy's impact on the regulatee's goals and option set is channelled through two distinct causal mechanisms: regulatory policy modifies the option set through relative prices, and it changes the goal set through goal signals (figure 1).

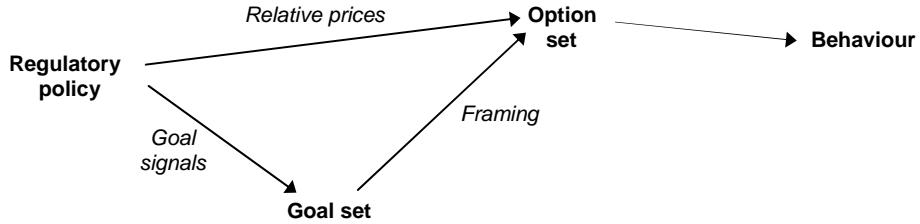


Figure 1: Overview of the theoretical framework.

As such, regulatory policy alters the decision environment of individuals. In a given situation at time  $t$ , actors assess and sort alternatives in a particular order depending on their goals, and choose the most satisfying option. At time  $t+1$ , when regulatory policy reaches them, they reassess and sort differently (or not) alternatives depending on the changes thus created, and their behaviour changes (or not) accordingly (figure 2).

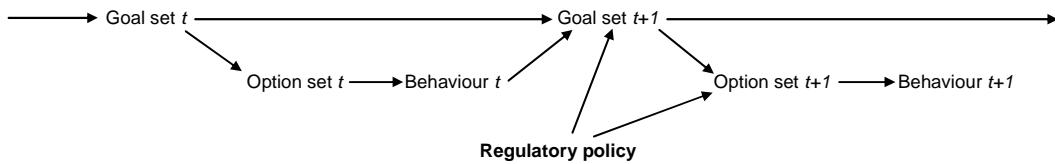


Figure 2: Role of regulatory policy in the dynamics of individual behaviour  
(adapted from Steglich 2003: 128).

There is no reason to assume that regulatory policy is the only input that can influence choices via these two mechanisms. Other factors matter (peers, economic environment, institutions, etc.) and I will allude to some of them in the following pages. However, the paper's focus is on the role of regulatory policy.

Besides, the framework defines (non)compliance as goal-oriented action. It only incidentally takes up the role played by incapacity, ignorance, or misunderstanding, although that certainly is not anecdotal. To include all these aspects, one would have to go much further up the chain of causality than I am prepared to in these pages. Therefore it is assumed here that regulatees know and understand how they are expected to behave, and that goal framing theory offers a 'useful fiction' (MacDonald 2003) of actual action processes.

The rest of the paper is organised in three main sections, corresponding to the three complementary parts of the framework: firstly, a model of individual choice with several goals; secondly, a theory of goals that specifies the principal categories of individual motives; thirdly, the two causal mechanisms through which regulatory policy may impact on goals and options, and hence influence individual choices. Conclusions follow.

### **First step: a model of choice with multiple goals**

To begin with, it is necessary to present the ‘engine’ of the framework, which is the model of individual action in its most abstract form. The other parts of the framework will then be added to the core model.

#### ***Basic principles of goal framing theory***

GFT maintains several assumptions of rational choice theory: individuals are the core unit of analysis; their behaviour is goal-oriented; actors are ‘consequentialists’, which means that they anticipate and evaluate the consequences of the options available to fulfil a purpose, and choose the one that is likely to best satisfy their purpose.

The originality of GFT with regard to standard rational choice theory is twofold. Firstly, in agreement with the idea that reality is socially constructed (Berger and Luckmann 1967), GFT assumes that one’s goals and the way one defines the situation are interrelated. In other words, perception and motivations become harmonised in a to-and-fro process. Therefore, goals tend to be situation dependent rather than stable across situations. Secondly, the consequences considered by the actor are defined according to a variety of reference points and not solely material self-interest: social norms or emotions may also become elements of reference to sort alternatives. In other words, action may result from the pursuit of several goals rather than one.

That said, choices cannot proceed from any sophisticated aggregation or compromise between these goals. In fact, one’s cognitive capacities are limited, a result well established in a number of domains, including tax compliance (e.g. Scholz and Pinney 1995). In particular, actors cannot attend to all the dimensions of a situation at once as attention is selective. Hence there is a foreground to which the actor is attentive in priority and a background to which he/she is only secondarily attentive: ‘a kind of tunnel vision in approaching problems and choices’ (McCaffery and Baron 2006: 107).

Accordingly, actors follow principally the goal that stands in the foreground of their attention: the *frame*. There, it crucially influences the evaluation and sorting of alternatives. The other, weaker goals are in the background of the actor’s attention, where they have a smaller but nonetheless important influence on preferences (figure 3).

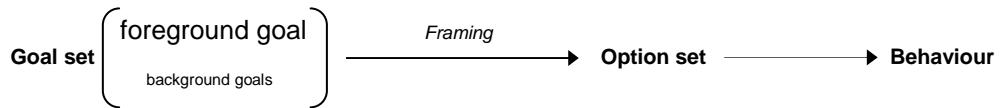


Figure 3: Basic model of individual action.

### ***Framing and the respective influence of foreground and background goals***

In the foreground, the frame structures the definition of the situation and works as a filter, selecting knowledge chunks, references and beliefs as well as criteria to sort alternatives. As such it has a crucial influence in the formation of preferences.

Alternatives are sorted with respect to their capacity to satisfy the main goal. For example, if one is principally looking for an increase in one's resources, the option that provides the greatest gain will be placed at the top of one's preferences. The following options will then be sorted in function of their decreasing capacity to yield resources. The framing effect of the dominant goal is thus to focus one's attention on certain dimensions of the alternatives available (here their consequences in terms of gain) and away from other aspects (such as their conformity with norms held inside the social group to which one belongs).<sup>3</sup>

Background goals have an effect on preferences as well, which will depend on their compatibility with the preference structure determined by the frame:

- If the background goals are compatible with the frame (i.e. they point in the same direction), then the preference structure determined by the frame is reinforced, and the probability of choosing the top alternative is close to 1.
- If the background goals are incompatible with the frame (i.e. if they point in opposite directions), they are likely to alter choice in favour of a second order alternative. In fact, if foreground and background goals are incompatible, preferences ( $P$ ) are then ordered in terms of decreasing satisfaction of the foreground goal and of increasing satisfaction of the background goals (Lindenberg 2001a).

In more schematic terms, considering two incompatible goals  $G_1$  and  $G_2$ ,  $G_1$  being the dominant goal (the frame), the alternatives A, B, C, D, E, for a particular task will be ordered in terms of decreasing satisfaction of  $G_1$ , for example:

$$P(G_1) \rightarrow A > B > C > D > E$$

and in terms of increasing satisfaction of  $G_2$ , for example:

$$P(G_2) \rightarrow A < B < C < D < E$$

---

<sup>3</sup> It could be argued that framing is also at play in noncompliance resulting from ignorance or misunderstanding of regulation. Regulatees in a particular frame may partially or totally ignore regulatory changes because their frame is driving their attention away from these and the options associated with them, and focusing it on other elements of the situation.

Although in the background, the goal G2 alters the option set determined by G1. The preference structure then becomes:

$$P(G1/G2) \rightarrow B > A > C > D > E^4$$

Thus A is a less likely choice than B.

### ***Frame salience and frame displacement***

The relative influence of foreground and background goals can be further specified with the concept of ‘salience’, which refers to the strength of the frame. Steglich defines salience as ‘the aggregate measure of the remaining background goals’ agreement or disagreement with the preference structure which the foreground goal imposes on the option set’ (Steglich 2003: 20). Depending on their compatibility with the frame, background goals reinforce or weaken the frame’s selection effect on alternatives. In the case where frame and background goals are only weakly incompatible, the salience of the frame is strong, and ‘the first alternative will be chosen with a probability close to unity’ (Lindenberg 2001a: 323). But the more the frame and the background goals are incompatible, the lower the salience, and ‘the more *equal* the distribution of choice probabilities over the alternatives’ (*ibid.*).

If choice probabilities became equally distributed, this would make choice unpredictable, and behaviour random. However, another axiom of GFT states that complete non-discrimination between alternatives cannot last. Therefore, when the salience of a frame becomes too weak, the foreground goal is replaced by one of the background goals. The winning goal is ‘the most prominent incompatible background goal’ (Lindenberg 1993: 22) and the one that enables best for discrimination between the alternatives. In fact, background goals compatible with the frame will be weak themselves. Otherwise, salience would not have declined to zero (Steglich 2003: 21). The substitution of one goal by another as frame is called *dynamic frame displacement*, and it may be seen as the result of the competition between goals for the actor’s attention.

Dynamic frame displacement is the main process for explaining changes in motives. It is at play in various changes in patterns of compliance, which I will discuss later.

### **Second step: a theory of goals**

Now that the main elements of evaluation and choice have been defined, let us flesh out the concept of ‘goals’. Goals are not all equivalent and interchangeable: to follow a norm is not the same thing as to follow one’s emotions (such as the desire for revenge), or one’s interests (such as securing income or making a profit). Hence a theory of goals-oriented behaviour requires also a theory of goals. To keep it at a manageable level of

---

<sup>4</sup> To make things clearer here, goals are assumed to be either perfectly compatible or incompatible. However, in reality, even background goals compatible with the frame will create adjustments in the preference structure.

complexity and to account for the peculiarities of individual motives, Lindenberg's '*master goals*' may be used as the principal categories here.

Lindenberg (1989, 2001b) identifies three master goals: the *hedonic* goal, the *gain* goal, and the *normative* goal. It is assumed that any more specific goal pursued in a particular situation is a sub-goal of one of the master goals, with which it shares essential ontological characteristics.

Each master goal relates to one of the paradigms of individual action, as proposed by Schimank (2000): *homo sociologicus* (normative goal), *homo oeconomicus* (gain goal) and emotional man (hedonic goal). Descriptively, each points at distinct triggers of individual action, which co-exist and mingle in everyday life, and in responses to public regulation.

### ***The hedonic goal***

The hedonic goal corresponds to the little explored paradigm of 'emotional man' (Elster 1989: 61-70, 1998). It bears on motives such as (dis)pleasure and (lack of) stimulation linked with the accomplishment of a task. It is present in almost everything that people do. Since any behaviour that has an uncompensated cost impacts on feelings of well-being, Lindenberg frequently summarises the hedonic dimension as two particular loss sub-goals: to prevent uncompensated loss, and to dispose of the feeling of loss. The first of these goals consists in the anticipation of uncompensated loss; the second consists in evaluating the capacity of available alternatives to mitigate the feeling resulting from uncompensated loss. Loss evokes deception, but also fear, guilt, shame, or anger.

The relevance of the hedonic master goal to the study of regulatory compliance is immediate, for regulatory policies may call on and depend on emotions in various ways. Regulation often implies that regulatees should perform a behaviour they find unpleasant: for example, car drivers should wear seat belts. Besides, having to comply with regulation may be unpleasant, because it implies subjection of various forms and degrees. Also, enforcement may be felt as unjust, disrespectful, scornful. To be threatened by sanctions may trigger a feeling of fear, and to experience punishment may generate shame, guilt, or anger.

### ***The gain goal***

The gain goal bears on the motivation generally tied with utility maximisation, i.e. the preservation or increase of one's resources. As such, it can be linked to the *homo oeconomicus* paradigm, which defines rational choice theory (e.g. Coleman 1990). An actor in a gain frame will be principally attentive to the prospect of a reward or profit (money, power, influence, free time, etc.).

The gain goal is relevant to compliant and noncompliant behaviours in a number of ways. Regulatory compliance frequently has a cost for regulatees, especially when non-compliance implies sanctions. In fact, gain is the central motive attributed to regulatees

in the deterrence approach to regulatory compliance (e.g. Mitchell 1994). Strategies of ‘creative compliance’ may also be linked to that motivation (e.g. Shah 1996).

Regulatory policy may also contribute directly or indirectly to producing additional resources for the benefit of target populations, especially in the very frequent occurrence when rewards (tax relief, bonus, etc.) are linked to performing the expected behaviour. It may also open or close gain opportunities.

### ***The normative goal***

The normative goal, which can be summarised as ‘act appropriately’ or ‘do the right thing’, evokes the normative conformity of classical sociology and the *logic of appropriateness* of March and Olsen (1989). It relates to the paradigm of ‘*homo sociologicus*’. Lindenberg defines it as the motive directly tied with social norms, i.e. rules shared within a group and controlled and sanctioned by its members. The normative master goal is linked to the preservation of collective resources and to the social groups that produce or consume them (Lindenberg 1989, 1992). It is also tied with identity and the way individuals ‘self-categorise’. A normative frame implies that costs and benefits of conformity are only a secondary issue; they are pushed in the background of one’s attention. Conversely, if the actor were in a gain frame, they would be in the foreground. The normative goal is linked to long-term issues and the control of passions.

Multiple social norms can influence responses to regulatory policy. Some of them could be called compliance-prone, evoking one’s ‘feeling of duty’ to comply with legal rules (e.g. May 2004). However, not all norms necessarily favour compliance (e.g. Gezelius 2002; Lessig 1995). For instance, group norms may motivate so-called ‘honour killings’ in spite of laws and other social norms unequivocally proscribing them.

Therefore, one should not assume a straightforward link between ‘morality’ or ‘norms’ on the one hand, and compliance on the other. Neither should it be taken for granted that a ‘strategic’ (gain) or ‘emotional’ (hedonic) attitude will necessarily be correlated to ‘defiance’ and non-compliance.<sup>5</sup>

### **Third step: causal mechanisms**

So far I have outlined the two first components of the theoretical framework: a model of individual choice with several goals, and a theory of goals. We still need an account of the channels through which public regulators influence the way regulatees choose a behavioural course. This can be analysed with two independent causal mechanisms. Firstly, regulatory policy makes the option set vary through the mechanism of relative prices; and secondly, it makes the goal set (i.e. the frame’s salience) vary through the mechanism of ‘goal signalling’.

---

<sup>5</sup> Braithwaite et al. (2007: 140-41) tend to ignore this, and rather argue that ‘moral postures’ lead to compliance. Similarly, Frey (1997) argues that ‘intrinsic motivation’, which includes norm-following, is a great source of regulatory compliance that regulators should not evict.

For each of these two mechanisms several examples will follow from a brief general presentation. In accordance with this paper's focus, most of them bear on regulatory policy, with an emphasis on 'carrots, sticks and sermons' (Bemelmans-Videc et al. 1998), i.e. rewards, sanctions, and information tools.

### ***First mechanism: relative prices***

#### *General presentation*

The idea of relative prices is classical in economics. It has also pervaded to regulation studies: for instance, according to Ogas (1998: 770), 'an important function of the law is to attach prices to choices'. The originality of the GFT approach is to distinguish between the consequences ('prices') that are directly taken up by the frame and those that are relevant only to the background goals (Lindenberg 1992; Lindenberg and Frey 1993). If changes in relative prices directly concern the dimension of alternatives that is taken up by the frame, then their effect on choice and behaviour will likely be very important. However, if changes in relative prices concern a dimension taken up only by background goals, their effect will likely be weak or nil. In other words, the net effect of changes in relative prices is dependent on framing and on the salience of the frame (figure 4).

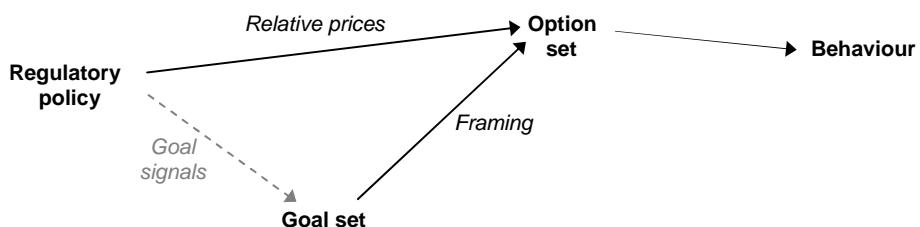


Figure 4: Influence of regulatory policy on individual choices through the relative prices mechanism.

Perhaps the simplest way to illustrate this mechanism is to borrow from a well established and often replicated result of the compliance literature. In a number of empirical studies, scholars consistently observed a measurable effect of legal sanctions (fines, imprisonment, etc.) on the behaviours of actors declaring no commitment to social norms, i.e. actors who are not in a normative frame (see literature review in Vandenberghe 2003).

For example, Wenzel showed that perceived legal sanctions were strongly correlated to compliance when regulatees did not declare strong personal norms (internalised social norms). The correlation was even stronger if they perceived that peers could also impose informal sanctions. Since these regulatees were not in a normative frame but more likely in a gain frame, they were directly attentive to the costs induced. Hence, backing up legal sanctions by informal ones heightened the attractiveness of compliance

compared to other options (Wenzel 2004: 563). As a consequence, increasing the severity of sanctions for actors in a gain frame would likely yield a rapid and significant response (increasing compliance rates), as demonstrated experimentally by Steglich (2003).

By contrast, actors committed to a social norm are generally indifferent to costs. In Wenzel's study (2004: 559-60), the effect of a strategy of deterrence was weak for those regulatees who declared strong personal compliance norms or a high level of identification to the group upholding the compliance norm. Perceived formal sanctions had no significant impact because it was not relevant to their frame. Therefore, it is likely that changing the severity of sanctions would not have a significant impact on their behaviours. In fact, only a significant change in the relative gains/costs of compliance and non-compliance would reinforce enough the background gain goal so that it displaces the normative goal in the foreground (there again, Steglich's work provides supporting evidence).

The mechanism of relative prices combined with a theory of goals-oriented action enables one to take up a variety of regulatory strategies and a number of responses to these strategies by targeted regulatees. The following sections provide several examples of this mechanism, bearing on each of the master goals.

#### *Hedonic prices*

A widespread use of emotions in public regulation consists in reinforcing negative emotions such as guilt or shame, by tying them to undesirable behaviours. A famous example is a policy to tackle non-compliance with traffic regulation in Bogota (Colombia). Pantomime artists were hired to publicly mock non-compliers at the city's crossroads (Bennett 2008; Caballero 2004). The ridicule of the situation yielded emotive reactions, which contributed to making noncompliant behaviours less prevalent. This 'management by embarrassment' (Rees 1994: 103) is a change in hedonic prices. It would work best if crossing a road or driving were relatively unstructured situations. Then, the mime's mocking would structure one's definition of the situation. Actors would later anticipate the shame and comply: the goal 'to avoid uncompensated loss' would have gained strength and would influence the way actors perceive the situation (e.g. Hopfensitz and Reuben 2009). However, a pedestrian or driver whose attention is focused on an urgent trip would not care if he/she were ridiculed. Another goal being at the foreground (important professional meeting, medical emergency, etc.) the mime's intervention would probably have no or little impact.

Hedonic prices can also be at stake in adverse responses to regulation. Without directly pulling the hedonic string, a policy may constrain actors in an activity that gives them a certain pleasure, or it may ask them to perform an activity that yields displeasure.<sup>6</sup> In such a case, loss compensation may motivate adverse responses. A study by Bamberg and Schmidt (1999) provides a compelling example of this 'offsetting effect' (Peltzman

---

<sup>6</sup> 'Disruptive innovations' (Bower and Christensen 1995) may make certain tasks less difficult or unpleasant and hence influence responses to regulation: the internet has made numerous administrative procedures less burdensome, magnetic transport cards have made public transport easier, etc.

1975). In a small German university town, a preferential fare for bus use was introduced, and a new peripheral bus line installed. This changed the relative travel times and costs of the alternative modes of transport available: the bus, the car, and the bike. Yet, several students who used to go to the university by car and had switched to the bus after the reform later came back to using their car. This is puzzling from an economic perspective, because the second behavioural change was not linked to a modification in the costs of the alternatives: in the meantime, these costs had not changed. It is less puzzling from a GFT perspective. These students used to travel by car, which may be costly, but also rewarding in terms of comfort, autonomy, and stimulation, i.e. hedonic aspects. Their initial change of transport suggests that at that time they were in a gain frame. However, the daily experience of taking the bus, a less comfortable and less stimulating experience than the car, slowly but surely strengthened the hedonic goal in the background: the gain frame became too weak and was displaced by a hedonic frame. Hence, actors ultimately came back to their old habits and their preferences evolved, the car becoming again the best alternative.

#### *Gain prices*

Numerous studies have documented the effect that a change in gain prices may have on regulatees. They emphasise both its efficacy and its limits, inasmuch as the costs and gains of alternatives may result from factors that the public regulator may not control.

A good example of efficient gain prices is the desegregation policy in the American south. There, it was in the interest of white business owners to hire blacks or have them as clients. But they were also attentive to the costs of informal sanctions applicable in case they would not respect the segregation norm. The Civil Rights Act counteracted these informal sanctions with legal ones. The relative prices of alternatives changed accordingly. The Act could hence yield its strongest effects in that particular population because the gain goal was so strong for them (Lessig 1995: 965-67; also Horne 2004: 1056).

But changes in gain prices also occur outside regulatory policy. Market fluctuations, and especially economic booms or depressions, may induce important price changes. They too can impact on responses to regulation. For example, before oil prices rose, policies to control oil pollution at sea had generally failed. However, price increases in 1973 and 1978 made cleaning tanks at sea more expensive since an increasingly valuable part of the freight was lost in the process. This resulted in a significant decrease in oil pollution at sea (Mitchell 1994: 227).

#### *Normative prices*

People in a normative frame are not ignorant of the consequences of alternatives. They are attentive to those that make sense in a normative frame, i.e. to the degree of ‘appropriateness’ of each option. Regulators often try to change that with information campaigns. But other goals may well lead to other, second-order responses (e.g. Weiss and Tschirhart 1994: 88). Changing the ‘normative price’ of alternatives may prove especially difficult when hedonic aspects (anticipation of guilt, shame, fear, etc.) and

social networks uphold the norms to be changed, for example in a religious or traditional community. If it is not the latter, especially its authority figures, that redefines the limits of what is appropriate and what is not, then information campaigns are likely to fail, or even backfire (Sunstein 1996: 2049). Recall for instance how difficult it is to tackle female genital mutilation or so-called ‘honour crimes’.

A strategy that works is ‘ambiguation’ (Lessig 1995): counteracting a norm by focusing one’s attention on another, contradictory norm. A recent example is the law of March 2004 in France, which forbids students from wearing ‘conspicuous signs’ of religious affiliation in public schools. It is widely understood that the law was meant to ban Muslim headscarves. The law itself, justified with reference to the norm of secularity of the State, introduced an ambiguity that has weakened norms of religious tolerance and non-discrimination. As a result, Muslim women who were neither students nor teachers have increasingly suffered from discrimination (Bowen 2008; Khosrokhavar 2009; Le Bars 2009; Scott 2007). This law made it more acceptable to discriminate against Muslim women: it changed the normative prices of discrimination and non-discrimination.

### **Second mechanism: goal signalling**

#### *General presentation*

A goal signal is the information in terms of goals that can be found in all that *alter* does in the presence or in the direction of *ego*. When *alter* acts in the presence of *ego*, he/she signals that he/she is following one goal in priority. In other words, *alter* signals his/her frame to *ego*. Since they channel *ego*’s attention, signals effectively sustain, strengthen, or weaken *ego*’s frame. Behaviours conforming to *ego*’s expectations (when *alter* and *ego* share the same frame or frames selecting the same preferred alternative) sustain or strengthen the salience of *ego*’s frame. However, behaviours that signal a different frame than that of *ego* may weaken the salience of *ego*’s frame. This mechanism can possibly lead to harmonisation or ‘frame resonance’ (Lindenberg 2000) between actors who interact regularly with each other.<sup>7</sup>

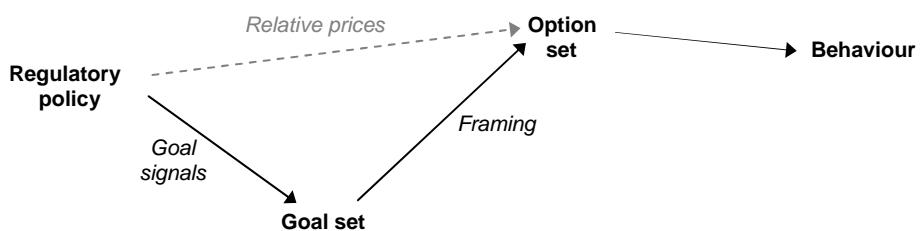


Figure 5: Influence of regulatory policy on individual choices through the goal signalling mechanism.

<sup>7</sup> Goal signals will likely be stronger if they are: personalised i.e. they target regulatees personally rather than as members of generic groups; incarnate (sent by another, identifiable individual); and repeated (e.g. May and Wood 2003: 129).

The influence of peers on behaviours constitutes an obvious case where goal signals may influence responses to regulation (e.g. Roch et al. 2000; Williams and Hawkins 1986: 554). Signals sent by regulators may be less straightforward, because there is not always an interaction, so to speak, between regulator and regulatee. However, there are always isolated or repeated actions from the state or its agents, which are perceivable by the regulatee or directly addressed to him/her. Hence, no matter how dehumanised, regulation almost always generates signals (figure 5).

### *Hedonic signals*

Information campaigns drawing one's attention to one's image of self are frequent. They send hedonic signals directly, intending to trigger a feeling of shame, guilt, contempt, or pride, in relation to widespread values or stereotypes. For example, a campaign launched in Texas to tackle roadside littering used posters and video clips tying the appropriate behaviour with the stereotypes of a 'tough guy' and 'proud to be Texan', to which the target population (men between 18 and 24) used to identify itself (Thaler and Sunstein, 2009: 64-5).

Regulatory enforcement also abounds with hedonic signals and hedonic responses, especially anger, fear, guilt and/or shame (Braithwaite 1989, 2002; Fineman and Sturdy 1999; Gezelius 2002: 312; Goldsmith 2005; Grabosky 1995a: 350; May and Wood 2003; Parker 2006; Scholz and Pinney 1995:494; Sherman et al. 1992). In GFT terms, most of these emotions are losses. If not compensated, they will bring the goal to compensate loss at the foreground of one's attention.

Compensation happens when regulators foster a feeling of guilt (Hopfensitz and Reuben 2009), and later provide to the sanctioned the opportunity to be rid of it by acknowledging their fault or by repairing it (Braithwaite 1989; Makkai and Braithwaite 1994; Parker 2006; Sherman 1993; Tyler 2006). Peers can also provide compensation (e.g. Sherman et al. 1992). But if neither regulators nor peers manage to do so, or if peers support non-compliance (e.g. Williams and Hawkins 1986: 554), then compensation may also be found in a form of 'revenge' against regulators or third parties (Sherman 1993: 465-66).

Hedonic signals sent by regulators (or third parties) could also strengthen the resolve of compliers if they upheld hedonic goals favouring compliance, for example with unexpected rewards, most likely verbal or symbolic ones (Frey 1997: 18; Sunstein, 1996: 2031). This echoes the influential discussion on trust-building and supportive enforcement (e.g. Ayres and Braithwaite, 1992).

### *Gain signals*

Gain signals are frequent and simple. Information tools often point at the gains or costs linked to certain behaviours: stickers in public transports warning of the fine for anyone caught travelling without a ticket; pamphlets and videos warning individuals of the legal

and personal costs of sexual harassment at work (Parker 1999); road signs recalling drivers of the likely consequences of noncompliant driving.

Similarly, incentives carry gain signals. In particular, monetary rewards permit an extremely rapid assessment of the cost of behaviour. These signals can rapidly displace normative goals with gain goals, as found and discussed in various studies (e.g. McGraw and Scholz 1991: 475-77; see review in Grabosky 1995b: 266-67).

### *Normative signals*

To communicate prescriptions and proscriptions in a legal form or in authority claims can signal to regulatees their normative obligations in that matter (Sunstein 1996: 2032). Pictures or objects, such as a uniform, may also be perceived as calls to normative goals. Information tools may constitute or contain normative signals when they point at a norm upheld in the target group and internalised by regulatees. Campaigns of birth control tying having children to patriotism attempt to do just that (Weiss and Tscherhart 1994: 89). More generally, regulators may tie normative meanings to all sorts of behavioural expectations (Lessig 1995), which will thus signal to regulatees the importance of the corresponding norms. All these strategies rely on ‘dormant normative obligations’ (Lindenberg 1983: 465) among regulatees.

But normative signals are also important to sustain normative goals over time: the normative commitment of an individual is contingent on some kind of social validation of his/her behaviours (Tenbrunsel and Messick 1999). Correlatively, inconsistent signals regarding morality (e.g. Parker 2006), or the absence of compatible signals, even without incompatible signals, may weaken a normative frame, especially if incompatible rival background goals reduce the frame’s salience. For instance, if compliance is costly, gain or loss goals may slowly get the better of the normative goal and normative compliance may disappear.

Sanctions carry especially important normative signals. As mentioned earlier, actors in a normative frame are not attentive to the costs of sanctions because they are not normative ‘prices’. However, sanctions are linked to normative goals because they signal to regulatees what is appropriate, or more exactly what is not. This signalling effect of sanctions has two principal consequences.

Firstly, it enables and makes sense of the claim that social norms and deterrence are not independent factors of compliance (Sherman et al. 1992; Williams and Hawkins 1986). In fact, ‘voluntary’ compliance is often correlated to strict controlling and sanctioning practices towards regulatees who do not comply because these punishments signal their normative obligations to the whole target population.

Secondly, if sanctions disappear, then the normative goal weakens, and violations of related norms may become widespread (e.g. Coleman 1990: 485-86; Gezelius 2002: 312). Also, anything signalling that threats of sanctions are not deterring non-compliers may be perceived by actors in a normative frame as proof that the norm has lost its moral force (e.g. Grabosky 1995a: 349; Grasmick and Scott 1982: 228; Keizer et al.

2008). A regulatee learning of unpunished non-compliance may experience the same overall effect: those among the regulatees who do not comply and are not sanctioned signal the opportunity costs of compliance to others.<sup>8</sup> That may trigger a frame displacement in favour of a gain or a loss frame.

A similar argument can be made when taxes and financial disincentives become used in lieu of sanctions. The normative signals of sanctions disappear when harmful practices become ‘priced’ for instance through a system of payments due in relation to the damage caused, without any reference to (il)legality (e.g. Ogus 1998: 783). This weakens normative goals and strengthens a gain frame.

### ***Cumulated mechanisms***

These few examples were intentionally simplified for the sake of clarity. However, in many cases both mechanisms and several goals could be at play in the various and sometimes contradictory effects that a single measure may have for different regulatees (Grabosky 1995a: 356). The goal and mechanism categories enable the disentangling of these effects. Hence, with GFT, a number of divergent empirical results on the effects of legal and informal sanctions on compliance (Sherman et al. 1992; Wenzel 2004; Williams and Hawkins 1986) may be reconciled with each other. Depending on what frame actors are in, or what their opportunities for loss avoidance or loss compensation are, threats of punishment or actual punishments may yield a great variety of responses.

Therefore, there is no unequivocal, deterministic rule to link together a type of regulation, a goal, and a mode of response (compliance or non-compliance). GFT is more amenable to contextual analyses of compliance as the outcome of particular configurations of causes. This indeterminacy in the framework is intentional, so as to be able to account for the multiple forms of unexpected response to regulation (Grabosky 1995a: 365 n.1).

### **Conclusion**

The framework outlined here is an individualistic account of regulatees’ responses to behavioural expectations addressed to them by regulators, which focuses on how public regulation influences regulatees’ motives (goal set) and alternatives (option set), thus influencing the way their preferences become structured. The framework answers Haines’ plea inasmuch as it can take up a great variety of empirical findings from various streams of research on regulatory compliance. This result is achieved without any loss of theoretical consistency, thanks to Lindenberg’s goal framing theory, which can take up the simultaneous influence of several different motives on individual decisions. The theoretical framework also provides an account of the behavioural

---

<sup>8</sup> Incidentally, that may also signal to those who have not internalised the norm that the risk of being sanctioned by peers has become considerably weaker. For them this is a change in relative prices.

changes that may result from interactions between these goals. Therefore, this is a better individualistic model for compliance analysis than previous ones.

It can be used as a building block for the study of other more specific compliance issues in a methodological individualistic approach. For instance, it can be argued – although space does not permit me to develop such an argument here – that a GFT approach could be fruitfully applied to study the impact of regulation on organisational behaviour. Organisational characteristics, such as rules and procedures, and norms upheld within an organisation by its members (organisational culture), could also be said to carry signals and/or modify relative prices, and thus contribute to organisational responses to regulation. Likewise, GFT could be applied to study how motives evolve when regulatees and regulators are ‘repeat players’ (Galanter 1974). It could be argued that relational concerns, especially trust, evolve through signals between regulatee and regulator, strengthening commitments to solidarity and reciprocity norms (Lindenberg 1998). These in turn influence the way regulatees respond to regulatory demands and changes. In other words, the formalization effort reported in this paper should open rather than close the way for further reflections and new steps towards a better theory of compliance.

Such reflections are needed. In fact, conceptualising individual choice as the result of a competition between rival goals implies that behavioural change results from a threshold effect (also Jacob 1980). That threshold depends on a regulatee’s goal set (frame and background goals) and option set (alternatives available). The relevant parameters have not been specified, because by and large they are contingent on particular situations or types of situation. Only detailed empirical studies could make these parameters explicit. In particular, they should take other context variables into account which I have not specified but I have mentioned a few in the discussion. They too contribute to influencing the goal and option sets of regulatees.

Hence, the GFT approach to compliance can also guide the elaboration of field specific analytical frameworks, for the answers it provides and the questions which remain open to empirical responses.

## References

- Alm, J., Sanchez, I. and De Juan, A. (1995) 'Economic and noneconomic factors in tax compliance', *Kyklos* 48 (1): 3-18.
- Ayres, I. and Braithwaite, J. (1992) *Responsive regulation: transcending the deregulation debate*. New York : Oxford University Press.
- Bamberg, S. and Schmidt, P. (1999) 'Regulating transport: behavioural changes in the field', *Journal of Consumer Policy* 22: 479-509.
- Bardach, E. and Kagan, R.A. (2002) *Going by the book. The problem of regulatory unreasonableness*. New Brunswick, NJ: Transaction Publishers.
- Bemelmans-Videc, M-L., Rist, R.C. and Vedung, E. (eds.) (1998) *Carrots, sticks and sermons: policy instruments and their evaluation*. New Brunswick, NJ: Transaction Books.
- Bennett, Drake (2008) 'The culture of corruption', *Boston Globe*, 27 July.
- Berger, P.L. and Luckmann, T. (1967) *The social construction of reality*. Harmondsworth: Penguin.
- Bowen, John (2008) 'Why did the French rally to a law against scarves in schools?' *Droit et société* 68: 33-52.
- Bower, J.L. and Christensen, C.M. (1995) 'Disruptive technologies: catching the wave', *Harvard Business Review*, January-February.
- Braithwaite, John (1989) *Crime, shame and reintegration*. Cambridge: Cambridge University Press.
- Braithwaite, John (2002) 'Rewards and regulation', *Journal of Law and Society* 29 (1): 12-26.
- Brehm, John (1996) 'Steps towards a political science of compliance: common insights and recurring problems'. Paper presented at the 54th Annual Meeting of the Midwest Political Science Association. Chicago, USA.
- Brehm, J. and Hamilton, J.T. (1996) 'Noncompliance in environmental reporting: are violators ignorant, or evasive, of the law?', *American Journal of Political Science* 40 (2): 444-77.
- Caballero, Maria Cristina (2004) 'Academic turns city into a social experiment. *Harvard University Gazette*, 11 March.

Coleman, James S. (1990) *Foundations of social theory*. Cambridge, MA: Harvard University Press.

Coombs, Fred S. (1980) ‘The bases of noncompliance with a policy’, *Policy Studies Journal* 8 (6): 885-92.

Elster, Jon (1989) *Nuts and bolts for the social sciences*. Cambridge: Cambridge University Press.

Elster, Jon (1998) ‘Emotions and economic theory’, *Journal of Economic Literature* 36 (1): 47-74.

Fineman, S. and Sturdy, A. (1999) ‘The emotions of control: a qualitative exploration of environmental regulation’, *Human Relations* 52 (5): 631-63.

Frey, Bruno S. (1997) *Not just for the money: an economic theory of personal motivation*. Cheltenham: Edward Elgar.

Galanter, Marc (1974) ‘Why the “haves” come out ahead: speculations on the limits of legal change’, *Law & Society Review* 9 (1): 95-160.

George, A.L. and Bennett, A. (2005) *Case studies and theory development in the social sciences*. Cambridge, MA: MIT Press.

Gezelius, Stig S. (2002) ‘Do norms count? State regulation and compliance in a Norwegian fishing community’, *Acta Sociologica* 45 (4): 305-14.

Goldsmith, Andrew (2005) ‘Police reform and the problem of trust’, *Theoretical Criminology* 9 (4): 443-70.

Grabosky, Peter (1995a) ‘Counterproductive regulation’, *International Journal of the Sociology of Law* 23: 347-69.

Grabosky, Peter (1995b) ‘Regulation by reward: on the use of incentives as regulatory instruments’, *Law and Policy* 17 (3): 257-82.

Grasmick, H.G. and Scott, W.J. (1982) ‘Tax evasion and mechanisms of social control: a comparison with grand and petty theft’, *Journal of Economic Psychology* 2 (3): 213-30.

Gunningham, N. and Grabosky, P. (1998) *Smart regulation. Designing environmental policy*. Oxford: Oxford University Press.

Haines, Fiona (1997) *Corporate regulation. Beyond ‘punish or persuade’*. Oxford: Clarendon Press.

- Hood, Christopher (1986) *The tools of government*. Chatham: Chatham House.
- Hopfensitz, A. and Reuben, E. (2009) ‘The importance of emotions for the effectiveness of social punishment’, *Economic Journal* 119 (540): 1534-59.
- Hopkins, Andrew (1994) ‘Compliance with what? The fundamental regulatory question’, *British Journal of Criminology* 34 (4): 431-43.
- Horne, Christine (2004) ‘Collective benefits, exchange interests, and norm enforcement’, *Social Forces* 82 (3): 1037-62.
- Hutter, Bridget (1997) *Compliance: regulation and environment*. Oxford: Oxford University Press.
- Hutter, Bridget (2001) *Regulation and risk: occupational health and safety on the railways*. Oxford: Clarendon Press.
- Jacob, Herbert (1980) ‘Deterrent effects of formal and informal sanction’, *Law & Policy Quarterly* 2 (1): 61-80.
- Kagan, R.A. and Scholz, J.T. (1984) ‘The criminology of the corporation and regulatory enforcement strategies’, in Keith Hawkins and John Thomas (eds.), *Enforcing regulation*. Hingham, MA: Kluwer-Nijhoff.
- Kahneman, D. and Tversky, A. (1979) ‘Prospect theory: an analysis of decision under risk’, *Econometrica* 47 (2): 263-92.
- Keizer, K., Lindenberg, S. and Steg, L. (2008) ‘The spreading of disorder’, *Science* 322: 1681-85.
- Khosrokhavar, Farhad (2009) ‘Ce que la loi sur la burqa nous voile’, *Le Monde*, 31 July.
- Le Bars, Stéphanie (2009) ‘Les tribunaux sont de plus en plus saisis de contentieux sur le port du voile’, *Le Monde*, 17 April.
- Lessig, Lawrence (1995) ‘The regulation of social meaning’, *University of Chicago Law Review* 62 (3): 943-1045.
- Lindenberg, Siegwart (1983) ‘Utility and morality’, *Kyklos* 36 (3): 450-68.
- Lindenberg, Siegwart (1989) ‘Social production functions, deficits, and social revolutions’, *Rationality and Society* 1 (1): 51-77.
- Lindenberg, Siegwart (1992) ‘An extended theory of institutions and contractual discipline’, *Journal of Institutional and Theoretical Economics* 148 (1): 125-54.

- Lindenberg, Siegwart (1993) 'Framing, empirical evidence, and applications', in *Jahrbuch für Neue Politische Ökonomie*. Tübingen: Mohr (Siebeck).
- Lindenberg, Siegwart (1998) 'Solidarity: its microfoundations and macrodependence. a framing approach', in Patrick Doreian and Thomas Fararo (eds.), *The problem of solidarity. Theories and models*. Amsterdam: Gordon and Breach.
- Lindenberg, Siegwart (2000) 'The extension of rationality: framing versus cognitive rationality', in Jean Baechler and François Chazel (eds.), *L'Acteur et ses raisons*. Paris: PUF.
- Lindenberg, Siegwart (2001a) 'Intrinsic motivation in a new light', *Kyklos* 54 (2-3): 317-42.
- Lindenberg, Siegwart (2001b) 'Social rationality as a unified model of man (including bounded rationality)', *Journal of Management and Governance* 5: 239-51.
- Lindenberg, S. and Frey, B.S. (1993) 'Alternatives, frames, and relative prices: a broader view of rational choice theory', *Acta Sociologica* 36: 191-205.
- Makkai, Toni and John Braithwaite (1994) 'Reintegrative shaming and compliance with regulatory standards', *Criminology* 32: 361-85.
- March, J.G. and Olsen, J.P. (1989) *Rediscovering institutions: the organizational basis of politics*. New York: Free Press.
- MacDonald, Paul K. (2003) 'Useful fiction or miracle maker: the competing epistemological foundations of rational choice theory', *American Political Science Review* 97 (4): 551-65.
- May, Peter J. (2004) 'Compliance motivations: affirmative and negative bases', *Law & Society Review* 38 (1): 41-68.
- May, Peter J. (2005) 'Compliance motivations: perspectives of farmers, homebuilders, and marine facilities', *Law & Policy* 27 (2): 317-47.
- May, P.J. and Wood, R.S. (2003) 'At the regulatory front lines: inspectors' enforcement styles and regulatory compliance', *Journal of Public Administration Research and Theory* 13 (2): 117-39.
- McBarnet, D. and Whelan, C. (1991) 'The elusive spirit of the law: formalism and the struggle for legal control', *Modern Law Review* 54 6): 848-73.
- McCaffery, E.J. and Baron, J. (2006) 'Thinking about tax', *Psychology, Public Policy, and Law* 12 (1): 106-35.

McGraw, K.M. and Scholz, J.T. (1991) ‘Appeals to civic virtue versus attention to self-interest: effects on tax compliance’, *Law & Society Review* 25 (3): 471-98.

Mitchell, Ronald B. (1994) *Intentional oil pollution at sea*. Cambridge: MIT Press.

Mitchell, Ronald B. (2007) ‘Compliance theory: compliance, effectiveness, and behaviour change in international environmental law’, in Jutta Brune, Daniel Bodansky and Ellen Hey (eds.), *Oxford handbook of international environmental law*. Oxford: Oxford University Press.

Ogus, Anthony (1998) ‘Corrective taxes and financial impositions as regulatory instruments’, *Modern Law Review* 61 (6): 767-88.

Parker, Christine (1999) ‘How to win hearts and minds: corporate compliance policies for sexual harassment’, *Law & Policy* 21 (1): 21-48.

Parker, Christine (2006) ‘The “compliance” trap: the moral message in responsive regulatory enforcement’, *Law & Society Review* 40 (3) 591-622.

Peltzman, Sam (1975) ‘The effects of automobile safety regulation’, *Journal of Political Economy* 83 (4): 677-725.

Rees, Joseph (1994) *Hostages of each other: the transformation of nuclear safety since Three Miles Island*. Chicago: Chicago University Press.

Roch, C.H., Scholz, J.T. and Kathleen McGraw, K. (2000) ‘Social networks and citizen response to legal change’, *American Journal of Political Science* 44 (4): 777-91.

Schimank, Uwe (2000) *Handeln und Strukturen. Einführung in die akteurtheoretische Soziologie*. Weinheim: Juventa.

Scholz, John T. (1984) ‘Cooperation, deterrence, and the ecology of regulatory enforcement’, *Law & Society Review* 18 (2): 179-224.

Scholz, J.T. and Pinney, N. (1995) ‘Duty, fear, and tax compliance: the heuristic basis of citizenship behavior’, *American Journal of Political Science* 39 (2): 490-512.

Scott, Joan Wallach (2007) *The politics of the veil*. Princeton: Princeton University Press.

Shah, Atul K. (1995) ‘Creative compliance in financial reporting’, *Accounting, Organizations and Society* 21 (1): 23-39.

Sherman, Lawrence W. (1993) ‘Defiance, deterrence, and irrelevance: a theory of the criminal sanction’, *Journal of Research in Crime and Delinquency* 30 (4): 445-73.

Sherman, L.W., Smith, D.A., Schmidt, J.D. and Rogan, D.P. (1992) ‘Crime, punishment, and stake in conformity: legal and informal control of domestic violence’, *American Sociological Review* 57 (October): 680-90.

Steglich, Christian (2003) ‘The framing of decision situations. Automatic goal selection and rational goal pursuit’, Department of Behavioral and Social Sciences, ICS Dissertation Series, University of Groningen, The Netherlands.

Sunstein, Cass R. (1996) ‘On the expressive function of the law’, *University of Pennsylvania Law Review* 144: 2021-53.

Tenbrunsel, A.E. and Messick, D.M. (1999) ‘Sanctioning systems, decision frames, and cooperation’, *Administrative Science Quarterly* 44 (4): 684-707.

Thaler, R.H. and Sunstein, C.R. (2009) *Nudge*. London: Penguin.

Tyler, Tom R. (2006) *Why people obey the law*. Princeton: Princeton University Press.

Vandenbergh, Michael P. (2003) ‘Beyond elegance: a testable typology of social norms in corporate environmental compliance’, *Stanford Environmental Law Journal* 22: 55-144.

Weiss, J.A. and Tschirhart, M. (1994) ‘Public information campaigns as policy instruments’, *Journal of Policy Analysis and Management* 13 (1): 82-119.

Wenzel, Michael (2004) ‘The social side of sanctions: personal and social norms as moderators of deterrence’, *Law and Human Behavior* 28 (5): 547-67.

Williams, K.R., and Hawkins, R. (1986), ‘Perceptual research on general deterrence: a critical review’, *Law & Society Review* 20 (4): 545-72.