POLICY DESIGN FOR LEGITIMACY: EXPERT KNOWLEDGE, CITIZENS, TIME AND INCLUSION IN THE UNITED KINGDOM’S BIOTECHNOLOGY SECTOR

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More than ever, policy designers need to take legitimacy deficits seriously. To do so, they increasingly involve citizens in policy design processes and draw from a wider range of expertise. Where should they stop in terms of inclusiveness to citizens and expertise and for how long should they allow citizens and experts to be persuasive? These are the questions addressed in this article. Policy design legitimacy, the article argues, can be related to variations in designers and politicians’ inclination to resort to output-oriented (expertise-based) versus input-oriented (citizen-centred) design processes. Input-oriented processes have a higher potential in terms of legitimacy deficit reduction than output-oriented processes, but they take longer, notably because they require the involvement of large numbers of people. In contrast, output-oriented processes have a slightly lower legitimacy potential, but can produce it faster. These propositions are illustrated by two policy design narratives drawn from the United Kingdom’s biotechnology sector.

INTRODUCTION

According to Webster’s dictionary, a design is ‘a mental project or scheme in which means to an end are laid down’. It is easy to understand why the word came to be used in policy analysis: policies are commonly viewed as large projects or schemes to tackle collective problems. Since Lindblom (1959) at least, scholars know that policy-making in the real world is not about finding means to clearly understood ends. Humans’ cognitive capacities are too limited to enable such a synoptic approach to policy-making. Therefore, according to Lindblom, real world policy-making is less about devising large purposive schemes than about incremental departures from the status quo. Lindblom’s perspective on policy-making has been vividly contested (for example, Kingdon 1995), but very few policy scholars would argue that the synoptic approach, implied by the concept of design, offers a more accurate description of reality. Nevertheless, politicians often like to think (or make believe) that their approach to policy-making implies figuring out schemes to address clear and understood collective problems. Because of this belief, they mandate people, notably civil servants, to imagine schemes or projects in view of realizing policy objectives. In other words, politicians mandate people to design policies. Reality may distort designs and prove deceiving to those who believe policy-making should be about conceiving purposive schemes. However, at some points in most policy’s life cycle some people are given the job of imagining large schemes to tackle collective problems. The purpose of this article is to propose an understanding of the work of those whose job it is to design policies.

The utilitarian perspective prevailing in policy circles since the Second World War placed efficiency as the main end of policy design (DeLeon 1997). Policy designers were asked by politicians to imagine the least costly instruments to attain the highest possible level of welfare, be it in economic, environmental or social sectors. In the 1990s, this objective of efficiency became highly contested, sometimes because it casts too dark a shadow over other policy objectives (Gross-Stein 2001) or simply because, in political situations, it comes to mean just about anything (Stone 1997). In addition to these criticisms,
experience has shown that the utilitarian perspective is wholly inadequate in several policy sectors. Despite advanced scientific knowledge, policy designs failed to prevent catastrophes in sectors as diversified as food safety, space discovery, air travel security and environmental protection (Jasanoff 2003). These circumstances have shaken the utilitarian perspective as well as citizen’s confidence in politicians’ capacity to govern. As a result, any policy design justified solely in terms of efficiency risks appearing inadequate; politicians increasingly seek policy designs for legitimacy.

This article focuses on the contribution of design to more legitimate policies. I argue that politicians, and the people they mandate to design policy, can resort to output-oriented (knowledge-centered) and input-oriented (citizen-centered) processes to create legitimacy-inspiring policy designs. Policy designers also have some control over the duration of these processes and over their inclusiveness to actors and citizens. Input-oriented processes, I argue in this paper, can produce more legitimacy than output-oriented processes, but they take longer, especially when they involve large numbers of people. In contrast, output-oriented processes have a lower potential in terms of legitimacy, but can produce it faster. In other words, politicians and policy designers face the challenge of having to make adequate choices in terms of processes in a time-constrained policy-making environment. This paper seeks to shed light on this challenge. The legitimacy of policy designs and its relationship to input- and output-oriented processes, their duration and their inclusiveness are illustrated by a study of biotechnology policy in the United Kingdom in two areas: assisted reproductive technology (ART) and genetically modified organisms (GMO) in the agri-food sector. The article is divided into three main sections. First, I present a discursive understanding of policy design legitimacy. Second, I examine the extent to which legitimacy can be attained in output- and input-oriented processes. Third, I present the two biotechnology narratives.

DISCOURSE AND POLICY DESIGN LEGITIMACY

In the current context of decreasing public confidence in their capacity to govern, politicians are likely to exert significant pressure on policy designers to increase the legitimacy of policy decisions. Policy designers will be asked to rely on a wide breath of knowledge, to consult extensively and to invent new and innovative policy design processes. A consequence of such political demands will often be the creation of unrealistic expectations toward policy design as a source of legitimacy. To avoid any misunderstanding, it should be clear that policy design is only one part of the entire policy-making process and therefore can only achieve so much in terms of legitimacy creation. Problems of legitimacy can also arise at the agenda-setting, political ratification, policy implementation and evaluation stages, all beyond the scope of this article. To understand the limitations of policy design, Beetham’s (1991) work on legitimacy is a convenient point of departure.

Beetham (1991, p. 16) defines legitimacy as conformity with rules, justifiability of the rules along shared beliefs and consent of the subordinates in power relations. This definition of legitimacy pertains to power at the level of entire authority systems, of which policy design can sometimes be only a part. When Beetham speaks of conformity with rules in liberal democracies, he notably has in mind the legal procedures whereby laws are adopted. In these political systems, policy design normally precedes ratification by elected assemblies and is not subjected to a clear set of rules. Policy designers may conform to some customs, but are increasingly asked to innovate by politicians. Therefore, policy design can contribute little to the legitimacy of entire liberal democracies, as far as rule conformity goes. The same is true for consent. No one expects citizens to consent
to a policy design. Instead, the citizens of liberal democracies consent to a policy duly ratified by their elected representatives though a procedure inscribed into law.

Expectations about the contribution of policy designs to legitimacy should be limited to justifiability. Justifiability refers to the provision of reasons for subordinates to consent to power. Rule conformity and consent, Beetham (1991) argues, cannot always be equated with legitimacy. Rules can be unfair and consent be obtained through coercion and incentives. Legitimacy also requires justifying the exercise of power with reasons that will resonate with the core beliefs of society. To the extent that power is exercised through policy, power holders (politicians in liberal democracies) are expected to justify their policy decisions. And in the task of finding reasons for policies, policy designers can help.

Beetham (1991) provides a powerful warning against the Weberian temptation to equate legitimacy with what society believes to be legitimate. Political scientists who succumb to this temptation will often assess legitimacy with opinion surveys (for example, Weatherford 1992). Legitimacy is not as volatile as opinion, Beetham (1991) argues. The opposite approach would be to rely on a substantive definition of legitimacy. In the context of policy design, such an approach would require equating elements of policy design content with legitimacy. For example, Schneider and Ingram (1997, pp. 203–7) suggest that a policy design is substantively legitimate when it depicts groups as deserving, when it targets groups across social and economic cleavages, when it rests on instruments that build the capacities of disadvantaged groups, and when it encourages communicative ethics, notably by avoiding technical language (Schneider and Ingram 1997, pp. 203–7). Even if these elements of policy design content make a positive contribution to legitimacy in liberal democracies most of the time, I show later that knowledge-driven processes, resting on a technical language, can sometimes be a source of legitimacy. In other words, legitimacy can arise from the content of policy design, but the content will vary across sectors, countries and time, hence the difficulty of equating legitimacy with a definite substantive policy design.

Instead of searching for given policy content or measuring opinion, Beetham (1991) suggests that social scientists’ studies of legitimacy should provide assessments of the distance between the justification of rules and social core beliefs. Given the focus of this article on policy design, this task is of prime importance here. And interestingly enough, Steffek (2003, p. 258) made a similar observation, suggesting that the legitimacy of international regimes, just like administrative arrangements, rests far more on justifiability than on compliance with rules and consent by subordinates. To study justifiability, Steffek (2003, 2004) convincingly suggests relying on a discursive approach. This article also uses such a discursive approach and, to a lesser extent, an institutional approach.

The discursive approach assumes that policy design creates discourse situations (Schön and Rein 1994; Dryzek 2000). In fact, policy design is a process of discourse construction aimed at creating legitimacy for a design, known at the beginning or discovered during the process (Schmidt 2002). The discourse in construction will sometimes be widely accepted or vigorously contested. Discursive situations created during policy design processes can be informative about the distance between the justifications embedded in the design and the core beliefs of society. In this article, I infer different levels of legitimacy from discursive situations suggesting convergence, agreement, debate and cynicism. In what I call an institutional approach, I infer legitimacy also from an analysis of the reactions of political institutions to policy designs. The discursive perspective, however, is more useful to policy designers as discourses are constructed during the design process, whereas institutional reactions can only be observed once the design is completed.
The institutional perspective will therefore be used mostly in *ex post* analyses, such as the one provided below.

For Beetham (1991, pp. 19–20), ‘legitimacy is not an all-or-nothing affair’, hence his proposal to assess it on a scale distinguishing illegitimacy, legitimacy deficit and deligitimation. Each form of non-legitimate power on the scale corresponds respectively with problems of rule compliance, of justifiability and of consent. In line with the reasoning that I have provided so far, policy design failures contribute mostly to legitimacy deficits. As should be obvious, a policy design failure, alone, cannot render an entire political system illegitimate. Naturally, legitimacy deficits are neither an all-or-nothing affair. Whether deficits come from a distance between design justification and shared beliefs or from the absence of shared beliefs suggest different degrees of legitimacy deficit. In what follows, I suggest four discursive situations and two institutional ones from which I infer different degrees of legitimacy deficit. I use these situations to construct a scale of policy design legitimacy deficits.

1. Convergence of beliefs. A sign of legitimacy is when the beliefs of actors in the sectors relevant to the policy design, including policy designers, converge toward a common understanding of the problem and solutions. Some deliberative theorists inspired by Habermas argue that policy actors should provide reasons to justify their policy positions and should not fear submitting these reasons to the test of the best argument. Actors with reasons shown weaker during the policy deliberation should be willing to change their policy position toward that based on the best reasons (Cohen 1997; Steffek 2003). Several policy theories besides deliberative theory suggest that policy design processes can contribute to reaching an agreement around justifications that resonate with learned beliefs (for example, Schön and Rein 1994; Scharpf 1997; Sabatier and Jenkins-Smith 1999; Parkinson 2003; Leach and Sabatier 2005). Discursive situations characterized by belief convergence around a policy design, stimulated by deliberation or policy learning, can reveal an absence of legitimacy deficit.

2. Agreement without belief convergence. A policy discourse can be legitimate, even if it is not convincing to everyone. The strategy of disjointed incrementalism proposed by Braybrooke and Lindblom (1970) rests on such reasoning. The authors argue that policy actors are unlikely to ever agree on core beliefs, but can agree nevertheless on small policy changes. In other words, competing actors can fail to find each other convincing, which prevents beliefs convergence, but they have the capacity to agree on policy changes introduced by opponents. Braybrooke and Lindblom (1970) insist on the size of these acceptable policy changes, suggesting that only small changes are likely to be considered legitimate because they involved the smallest departures from everyone’s distinctive beliefs. Of course, the size of change proposed by a policy design can be larger if one rejects Braybrooke and Lindblom’s assumption regarding the plurality of core beliefs. Without suggesting that only designs carrying small changes are legitimate, disjointed incrementalism comforts Beetham’s (1991) idea that legitimacy is linked to the distance between rule justification and beliefs, but not in a sufficient manner to engender illegitimacy. Democracy, pluralists argue, is an arrangement allowing people to agree to disagree. Thus, a discursive situation revealing agreement on a policy design without convergence in beliefs suggests only a small legitimacy deficit.
3. Debates without agreement. In the social movement literature, it is often reported that organizations deliberately chose not to cooperate with policy makers, preferring stimulating social debates by mobilizing their grassroots (Tarrow 2000; Montpetit, Scala and Fortier 2004). Dryzek (2000) even argues in favour of an autonomous public sphere of non co-opted social movement organizations, in view of preserving society’s capacity to sustain critical discourses anchored in beliefs that are distant from those of policy-makers. In sectors where such organizations are present, the discursive situation created by policy design will be one characterized by vigorous debates and little sign of agreement. In some cases, the debate may become harsh enough to trigger institutional mechanisms, discussed in a moment, to shelve the design and require a new design process (Leach and Sabatier 2005). Some people would argue along Dryzek (2000) that debate without agreement is the sign of a healthy democracy (Inglehart 1997). This optimist argument, however, rests on a long-term perspective and assumes that institutional mechanisms work, by effectively enabling policy re-design. However, policy designers, whose perspective is short term, cannot treat debates without agreement as unproblematic. Such a discursive situation provides a clear sign of legitimacy deficit.

4. Cynicism without debate. This last discursive situation is indication of a deep legitimacy deficit. Discourses sustaining a policy design can be so disconnected from the beliefs of a large number of actors that they choose to end their role and not even belong to the policy sector’s attentive public. When this occurs, the number of actors involved in a policy sector and the scope of the debate will shrink during the policy design process. This level of policy design legitimacy deficit can reduce the probability of institutional mechanisms being triggered to shelve a design and require policy re-design because of the diminishing attention given to policy by actors. When this occurs, the legitimacy deficit spills over policy design, and the entire political system enters what Beetham (1991, p. 20) calls delegitimation.

These four discursive situations are accompanied by particular institutional reactions, which are further suggestive of different degrees of legitimacy. While policy designers should be particularly attentive to the discursive situations developing during their mandate, analysts can also pay attention to institutional reactions to policy designs as signs of legitimacy deficits.

1. **Policy effect**: a legitimate design, when it also is a convincing one, encourages beliefs convergence among actors, including politicians. A convincing design will encourage its formal ratification and engender policy change. To use an analogy with Beetham’s reasoning, a policy change consistent with a policy design is akin to consent with policy designers, which itself suggests legitimacy. Therefore, an *ex post* analysis of design legitimacy should include an examination of ratified policy, in addition to beliefs convergence. A convergence in policy beliefs accompanied with a consistent policy change is an additional sign of legitimacy. Naturally, belief convergence, without policy change, suggests a legitimacy deficit, as does policy change supported by agreement only.

2. **Veto and venue shopping**: as indicated above, an important legitimacy deficit is read from a discursive situation created by a large mobilisation of actors holding critical discourses. Depending on the institutional characteristics of the country and
historical period, these mobilized actors have veto points or venues, to either prevent the adoption of the design, contest it if adopted, or obtain the adoption of an alternative (Baumgartner and Jones 1993; Tsebelis 1995). During an electoral period, for example, newly mobilized actors can force political parties to take a critical stand toward a given policy design and propose alternatives. In some institutional settings, such as in the United States, actors can demand judicial review of policy decisions. International institutions can enable contestation beyond a country’s borders or press a country to adopt a given design. In short, institutional veto and venue shopping adds to the virulence of debates as a sign of legitimacy deficit (Leach and Sabatier 2005). From a long-term and institutional perspective on legitimacy, the presence of veto points is crucial as it can encourage shelving unacceptable policy designs, encouraging re-design on a new basis and thereby preventing cynicism. Again, my perspective is narrower, focussing only on the legitimacy of policy designs. And when virulent debates around a policy design are accompanied by the exercise of veto or venue shopping, I conclude there is an important deficit of policy design legitimacy.

These four discursive and two institutional situations enable analysts to distinguish roughly between four degrees of policy design legitimacy deficits. Too often, policy analysts see legitimacy as relevant only to the maintenance of authority in political systems. Rarely do they acknowledge the usefulness of the concept for policy and administration, preferring to focus on regulation and budgetary resources. As Beetham (1991, p. 29) rightly points out, legitimacy contributes to ‘securing the cooperation necessary to the achievement of the government’s policies … legitimacy is significant not only for the maintenance of order, but also for the degree of cooperation and quality of performance’. The legitimacy deficit scale I propose in this article should be particularly useful to study legitimacy in policy contexts. In the section that follows, I turn to design processes, specifically their duration and inclusiveness as potential explanations for differences in policy design legitimacy.

POLICY DESIGN PROCESSES AND LEGITIMACY POTENTIAL

Policy designers in advanced democracies do not work in isolation. They seek expertise inside and outside of their organization and they consult interested actors, if not the public more generally. Who should policy designers include, how many of them, and for how long are the questions I examine in this section. The type of actors, their number, and the duration of consultations do not exhaust the entire range of factors with a potential to impact on policy design legitimacy. From the perspective of this article, however, these factors appear as particularly important as they are factors about which politicians and policy designers make decisions.

Efficacy refers to the desired effect of a policy. Unlike efficiency, efficacy cannot be neglected by policy designers without affecting the legitimacy of their policy designs (Gross-Stein 2001). To capture the relationship between efficacy and legitimacy, Scharpf (1997) distinguishes between output-oriented and input-oriented legitimacy. For him, output-oriented legitimacy derives from the efficacy of a policy in improving a situation believed problematic for society. Policy designers must ask themselves whom to include in designing processes to ascertain an adequate degree of efficacy. In several sectors and institutions, experts or knowledgeable citizens have been the answer (Parkinson 2003, p. 183). The legitimacy of their participation rests with their possession of what policy
designers and/or society consider essential knowledge in the production of efficacy. In short, output-oriented processes seek knowledge that can make a contribution to the efficacy of a policy design. Legitimacy, however, cannot only rest on efficacy. People’s involvement in society’s affairs cannot only be a matter of knowledge gathering. Legitimacy is also related to citizenship and citizenship involves interest and participation in the affairs of the society (Schneider and Ingram 1997). Participating confers citizens with a sense of belonging. In other words, beyond any contribution it can make to efficacy, the inclusion of citizens in policy design processes can stimulate legitimacy. It is what Scharpf (1997) calls input-oriented legitimacy. Input-oriented processes seek to stimulate a sense of belonging to a society.

Input- and output-oriented processes are not mutually exclusive, as both operate simultaneously most of the time. As Parkinson (2003, p. 183) writes, ‘experts’ opinions have weight, but only in as much as they are offered in a process of public deliberation, and are found persuasive by those to whom they are offered’. This citation also suggests that input-oriented processes carry a greater potential to create legitimacy, as indicated by a discursive situation displaying a convergence of beliefs. Alone, output-oriented processes are always associated with legitimacy deficits. The argument is illustrated in a simplified form in figure 1. It follows that policy designers, in sectors where time is scarce, may choose to emphasize output-oriented processes, although it will deliver a legitimacy deficit, which will vary according to the distance between the ends ‘internal to expertise’ and those ‘of the people at large’ (Parkinson 2003, p. 183). Again, discursive situations should be useful in assessing the depth of the deficit. In other sectors, policy designers will choose to give themselves the time necessary to aim for the lowest possible legitimacy deficit, despite the difficulty associated with the realisation of the full potential of input-oriented processes.

Why would output-oriented processes, the output curve on figure 1, act faster, but less than input-oriented processes, on legitimacy? Even if I do not treat output-oriented processes as the purview of experts, the recent literature on the policy role of experts inspired this hypothesis. Jasanoff (1990) and Roy (2001), for instance, convincingly argue that experts should not be confused with scientists. Experts are political actors, interested in useful knowledge for policy-making. Scientists claim to work disinterestedly, in universities, for the advancement of knowledge. In policy-making processes, rules are different than in universities. For example, peer-review processes valued in universities to ascertain knowledge are too demanding, if not squarely ill-suited, for policy design.

FIGURE 1 Legitimacy potential, processes and their duration
processes. Likewise, scientists have no reason to hesitate affirming uncertainty about a given body of knowledge. In contrast, experts, if they want to influence policy designs, use much more caution in their recognition of uncertainty. Haas (1992) argues convincingly that politicians resort to experts to reduce uncertainty in sectors where it would otherwise prevail. Because uncertainty does little for policy design legitimacy, policy designers should view it as useful to engage experts, or knowledgeable citizens, in output-oriented processes, and engage them early on. In fact, experts and knowledgeable citizens can be viewed as policy entrepreneurs; that is actors who have ready-made knowledge, immediately applicable for policy design (Kingdon 1995). Unlike scientists, who constantly question existing knowledge, the entrepreneur has clear and documented policy proposals attached to carefully framed policy problems. By reducing uncertainty with already available knowledge, the expert or knowledgeable citizen can claim a capacity to contribute rapidly to policy efficacy and thereby build some legitimacy in output-oriented processes.

As figure 1 suggests, however, output-oriented processes can only do so much to fill policy design legitimacy deficits. Again, the literature on the role of experts is useful to understand this argument. First, while this literature insists on the difference between a scientist and an expert, it also suggests that the credibility of the latter will often rest on science (Sabatier and Jenkins-Smith 1999). There is a limit, however, on the extent to which experts can draw on scientific knowledge. As explained above, experts need certainty while, according to scientific tradition, scientists should always question existing knowledge. Consequently, it is a matter of time before some experts discover that the certainties provided by competing experts early on in the policy design process are fragile. Second, the area of knowledge covered by science is normally smaller than the area of knowledge required for policy design. Jasanoff (1990) and Roy (2001) have shown that experts quickly become involved on issues that are beyond those upon which science can legitimately claim to shed light. For example, the sciences of human genetics undoubtedly provide the strongest basis upon which one can identify the moment an embryo begins to feel pain during its development. Scientific experts, however, are no more competent than any other actors to decide that the capacity to feel pain should be the threshold beyond which it becomes ethically unacceptable to destroy embryos. Policy design involves decisions on norms, about which science has little to contribute. Under these circumstances, it is fair to expect output-oriented processes, whose purpose is to gather the knowledge of experts and informed citizens, to leave behind a legitimacy deficit. Once the full legitimacy potential of output-oriented processes is attained, continuing knowledge gathering, figure 1 suggests, should have a negative impact on legitimacy.

Why do input-oriented processes, the input curve on figure 1, take longer to produce policy design legitimacy, while having the potential to fill significantly or end legitimacy deficits? Input-oriented processes take longer to generate legitimacy because they often involve actors who do not have ready-made policy proposals. Unlike policy entrepreneurs, the actors involved in input-oriented processes simply believe it is their citizen’s duty to get involved. Unlike output-oriented processes, input-oriented processes often make a significant contribution to preference formation among actors. Naturally, a process of preference formation is longer than one in which actors simply express already-formed policy proposals.

As suggested in the preceding section, convergence of beliefs can be related to deliberative processes. A deliberation is believed to occur when actors agree to place their
policy preferences, if they have any, on the back burner for the sake of searching for the best argument. Unlike a negotiation among strategic actors, whose result is always a policy option situated within the space separating actors, a deliberation might disclose an entirely new space, which inspires policy options unforeseeable before the start of the input-oriented process (Montpetit 2003). For actors taking part in such a discovery, the experience constitutes citizenship at its best. Perhaps slightly too enthusiastic, Callon, Lascoumes and Barthe (2001, pp. 159–60) speak of an experience high in emotion. In any case, it can be expected that the new space creates a normative appeal favourable to a convergence of preferences toward the policy options it generates. When an input-oriented process creates a deliberation, it can yield a high degree of legitimacy. However, input-oriented processes cannot just be about endless deliberation. The agreements input-oriented processes enable have to be translated into policy designs and decisions, otherwise the processes’ legitimacy potential will decline as participants’ disenchantment will grow, hence the shape of the input curve on figure 1.

If the legitimacy potential of input-oriented processes increases with time, up to a point, it is also because time enables the inclusion of more actors. In fact, the relationship between inclusiveness and legitimacy potential, I suggest, is similar to the relationship between time and legitimacy potential illustrated in figure 1. All deliberation theorists would not agree with this proposition. Deliberation, Blondiaux and Sintomer (2002) warn, is distinct from direct and inclusive democracy. Consensus conferences, popularized in Denmark and experimented with in several countries, would provide examples of input-oriented processes, which are exclusive and short (Einsiedel et al. 2001; see also Parkinson 2003). Proponents of these processes believe in their potential to fill legitimacy deficits. Young (2000), however, is sceptical, making a strong case in favour of inclusive democratic processes. These conflicting ideas deserve further empirical investigations. For the time been, I hypothesize that an input-oriented process, whose duration allows for both, deliberation and inclusiveness, carries a higher legitimacy potential than a process which is only deliberative or only inclusive. This hypothesis is captured in figure 1.

I should underline that the correlation between time and inclusiveness holds also for output-oriented processes. When a policy designers’ aim is to reduce legitimacy deficits through an output-oriented process, the advice of more informed actors is better than the advice of fewer and consulting more actors requires more time. The risk of including actors in output-oriented processes, however, increases over time as new informed actors can always question the certainty created by the early knowledge. In the next section, I provide evidence from the biotechnology sector supporting the hypotheses summarized in figure 1.

BIOTECHNOLOGY NARRATIVES

To assess the legitimacy of a policy design within a sector, a detailed understanding of the evolution of the discursive situation during design processes, which can last long periods, is required. It is also useful to record the institutional reactions to the design. To explain legitimacy, analysts must understand the distinctive contribution of input- and output-oriented processes, which in reality are entangled. Naturally, the duration and inclusiveness of these processes also need to be assessed. Qualitative methods appear best suited to collect such in-depth policy knowledge. In what follows, I present two biotechnology policy narratives, which can be decomposed into five policy design cases. I used confidential interviews with actors, official documents and secondary sources to construct the narratives. The two sectors were carefully selected in a manner akin to a
most-similar-cases comparative research design. What I sought was narratives and cases that display variations along the variables in which I am primarily interested, but are otherwise similar. As should become obvious below, the two narratives provide policy design cases displaying important variations in terms of legitimacy deficits, type of design process, process duration and process inclusiveness. Confining the empirical investigation to two narratives belonging to the United Kingdom’s biotechnology sector reduced the variation of additional factors that might potentially influence legitimacy. The nature of the sector immediately comes to mind as a potential influence, which is limited here because all cases are drawn from the biotechnology sector. In other words, multiplying cases would require a discussion of additional variables. I chose to focus on a limited number of factors, knowing that this decision would prevent me from claiming to provide a full understanding of policy design legitimacy. My research design choice, however, gives me great confidence that the factors which I focus on are important for legitimacy in controversial sectors, as biotechnology can be, and for countries similar to the United Kingdom.

**Assisted reproductive technology**

*In vitro* fertilization (IVF) was first used successfully in the United Kingdom, enabling the birth of Louise Brown in 1978. This birth also caused a great amount of concern in British society, regarding the ethics of so-called test tube-babies. Several citizens worried that IVF was enabling an unprecedented manipulation of human life and wondered whether future technological developments would enable even more such manipulation. Uncertain about an appropriate course of action, in 1982 the Thatcher government mandated an Inquiry into the matters of human fertilization and embryology in view of policy design. The Inquiry was mandated ‘to consider what policies and safeguards should be applied…’ in the area of human fertilisation and embryology (Warnock 1984, p. 4). The Inquiry was chaired by Mary Warnock and reported in 1984.

This Inquiry can be treated as an output-oriented process. The output orientation of the process is visible in the Inquiry’s mandate, the committee’s composition and in its working method. First, the committee was not asked to create a sense of belonging, but to gather knowledge. In fact, the terms of reference of the Inquiry demands ‘to consider recent and potential developments in medicine and science related to human fertilisation and embryology’ (Warnock 1984, p. 4). Naturally, gathering knowledge does not have to run against goals of citizenship, but the Inquiry was never asked to do more than gather knowledge upon which to make policy recommendations. Second, the committee was made up of experts, albeit from a wide range of disciplines. Indeed, the Inquiry was mandated to consider the ‘social, ethical and legal implications’ of scientific developments and the committee’s composition reflected this mandate. Thus, the 15 experts who made up the committee came from law, philosophy and theology in addition to medical sciences. Mary Warnock, the chair of the Inquiry, had a background in philosophy. Third, the Inquiry engaged in limited consultations with external actors. Organizations concerned with the issue were asked to ‘submit evidence,’ indicating the Inquiry’s inclination toward a gathering of knowledge rather than an exercise of citizenship. Warnock (1984, p. 6) acknowledged the limited nature of the committee’s consultations, writing that ‘we have to record with regret that we did not receive evidence from as wide a range of minority and special interest groups as we would have liked’.

The committee took two years to produce its report. Given the wide range of expertise involved in the Inquiry, two years might appear as a reasonable duration. However,
evidence suggests that this length was inadequate for the Inquiry to achieve the full legitimacy potential of output-oriented processes. The first evidence comes from the two minority reports, signed by five members of the 15-member committee. The Inquiry recommended the prohibition of some technologies and related practices widely judged ethically unacceptable. But it suggested also that fertility treatments and embryo research are generally useful and should be encouraged under regulated conditions, provided by a state authority independent from government, but not exclusively controlled by the medical community. The first minority report, signed by two medical experts, objected to the inclusion of surrogacy into the list of prohibited practices. The second minority report, signed by three people (a social worker involved in the area of adoption, a professor of neurology and a psychiatric social worker), argued that providing embryos with a special legal status, something the Inquiry suggested, should imply the prohibition of embryo research, a practice the Inquiry chose to encourage. Second, external actors also largely rejected the recommendations of the committee. Unsurprisingly, the Society for the Protection of Unborn Children, an anti-abortion group, complained that the committee failed to recognize that embryos are human beings from conception. Complaints also came from the scientific community, which argued that the report treated them as untrustworthy (Mulkay 1997, p. 21). As the process went on, the discursive situation became one of debate without agreement. Adding to the discursive situation were institutional reactions suggesting legitimacy problems. In 1985, Enoch Powell, a former conservative minister, introduced in the House of Commons the Unborn Children Protection Bill. Squarely opposing the recommendations of the Warnock Committee, the Bill was to provide a strict framework for IVF and was to ban embryo research. At second reading, the vote in favour of Powell’s Bill was 238 against 66. The Warnock Inquiry left the policy design it recommended with a deep legitimacy deficit. With a mandate requiring a wide range of knowledgeable participants over a long period, the Inquiry encouraged dissidence among its members and failed to achieve the full legitimacy potential of output-oriented processes.

If the Warnock report inspired vociferous rejections, influential members of the Thatcher government allegedly shared its views, notably on embryo research, although it was clear that the Inquiry left too deep a legitimacy design deficit for a policy decision. Warnock (1984, p. v) herself alluded to this in the presentation of her report. She wrote: ‘It is not possible that a report like this should be equally well received in all quarters, given some of the controversial issues we have had to consider. There is bound to be criticism that we have gone too far, or not far enough. However, we have sought to provide ... a reasoned discussion of the issues which we hope will contribute to a high standard of public debate’. Instead of enabling the final reading of Enoch Powell’s Bill, a private member Bill, the government decided to launch an input-oriented process to debate on the basis of what the Warnock Inquiry provided.

In 1986, the UK government published a consultation paper to encourage discussions around the recommendations of the Warnock report. A few months before, the scientific community decided to form Progress, an association devoted to informing the public about the benefits of embryo research. Fearing the prohibitions contained in the Powell Bill, the scientific community became increasingly favourable to the policy design recommended by the Warnock Committee. The Medical Research Council and the Royal Society of Obstetricians and Gynaecologists even decided to set up the Voluntary Licensing Authority, a self-regulating body created for a temporary period, until the government established the licensing authority recommended by the Warnock report (Gunning and
During the period of consultations, the scientific community was successful at convincing the media, public opinion and even religious leaders that embryo research could also be justified on moral grounds. In a stunning article, Mulkay (1995a) shows how several religious leaders, far from dogmatic, came to accept, during the debates following the publication of the Warnock report, the argument that, in embryos, life develops gradually. It follows that research on embryos is acceptable during the first few days of embryonic life. This discourse came to be accepted by an increasing number of actors during the input-oriented process of the 1980s.

Nevertheless, the government’s white paper, published in 1987, suggested separating the Warnock recommendation concerning embryo research, the report’s most controversial recommendation, from the other recommendations. On these latter recommendations, the white paper endorsed the conclusions of the Inquiry. On embryo research, the white paper suggested providing Members of Parliament with a choice between a clause prohibiting embryo research and one similar to Warnock’s recommendation. The white paper insisted on the importance of a free parliamentary vote on a law with such moral implications. The white paper generated criticisms on both sides, which sought more decisive indications on embryo research. Given the slow reaction of the government following the publication of its white paper, a private member introduced a Bill in the spring of 1989 in the House of Lords echoing Enoch Powell’s Bill of 1985 and generating yet another parliamentary debate. This new private member Bill, however, received much less support than Enoch Powell’s Bill. For the government, this was a clear sign that opinions had evolved among actors after several years of debates and consultations and that the time to introduce its own Bill had come. A government Bill was thus introduced in Parliament late in 1989. Endorsing the controversial recommendation of the white paper, the Bill did not propose a precise course of action on embryo research. Rather, it suggested debating first the possibility of prohibiting instead of regulating embryo research in the context of a free vote. Finally, both houses approved the Human Fertility and Embryology Act, which provides for the regulation rather than the prohibition of embryo research. The Bill, after a six-year input-oriented policy design process, was accepted in 1990 by 364 MPs against 193.

The 6-year-long input-oriented process did not eliminate debates, although the discursive situation evolved toward a limited convergence of beliefs. As mentioned above, after a hostile first reaction the scientific community became favourable to the Warnock report. Several religious leaders changed their mind during the debate and became increasingly favourable to embryo research. MPs’ beliefs also evolved. In 1985, the ratio of MPs against embryo research, as expressed in the vote in favour of Enoch Powell’s Bill, was four to one; the ratio became two to one in favour of research in 1990 when the Act was finally adopted. As Mulkay (1995b, p. 34) indicates, 24 per cent of those MPs voting against embryo research in 1985 had become in favour of it in 1990. In comparison, none of those who were favourable to embryo research in 1985 had changed their mind in 1990. A convergence of beliefs in favour of embryo research has occurred during the input-oriented process spanning 1984–90. This period was adequate to realize most of the legitimacy potential of the input-oriented process. This is not to say that the process produced a perfect deliberation; in fact, several actors acted strategically, notably the scientific community which became favourable to the Warnock report only because it feared even more restrictive government interventions. Likewise, the Thatcher government, although appearing devoted to free parliamentary debates and votes, acted strategically, in favour of embryonic research, buying time for the scientific community.
to present convincing arguments. The process certainly did not open a new and appealing policy space, as convergence occurred in the direction of the recommendations of the Warnock Inquiry. However, it is undeniable that several religious leaders and MPs accepted entering a deliberative process, not fearing to subject their preferences to the test of the best argument if only by considering seriously the arguments of the other side. In this process, their beliefs changed toward those of the scientific community and of the Thatcher government. From a discursive situation displaying a convergence of beliefs, I argue that one can claim that the design legitimacy deficit is filled.

The institutional reactions to the policy design provide additional evidence of legitimacy as justifiability. Between 1990 and 2005, the Act itself was amended, only to make it slightly more permissive. This happened without causing great controversy. Court cases were filed against the licensing authority, but only on specific matters not covered in the Act. A 2003 survey of organizations critical of human genetics and embryology indicates the formation of some additional such organizations since 1990, an indication that the discursive situation after the adoption of the policy design was not characterized by cynicism. However, the survey reveals, these new organizations are small and exert little influence (Festing et al. 2003). Meanwhile, organizations such as the Society for the Protection of Unborn Children, never retrieved the influence they had in 1984. In short, the input-oriented process seems to have conferred legitimacy to the UK’s assisted reproductive technology policy, as measured by the distance between government justifications and shared beliefs.

**Agri-food genetic engineering**

The GMO sector in the UK displays some contrasts with the ART sector, as far as input- and output-oriented processes, their comparative durations and the number of actors involved. These differences, I argue, had an observable impact on legitimacy. Indeed, output- and input-oriented processes in the GMO sector failed to produce as much legitimacy as in the ART sector.

The GMO narrative begins around 1997 and ends in 2003. Unlike Thatcher in the early 1980s who faced a policy void in the ART sector, Tony Blair had to deal with a controversy in the GMO sector, partly stemming from existing policies. The Bovine Spongiform Encephalopathy (BSE) crisis produced unprecedented suspicions against the government’s capacity to oversee the safety of the food supply. This suspicion rapidly extended to other government responsibilities, including environmental protection. In due course the GMO sector became a symbol of inadequate policy. Critics argued that the allegedly independent scientific process defined risks so narrowly as to exclude a wide range of risks of particular concern to the British public. These critics added that the narrow definition of risks should come as no surprise as industry scientists are closely involved in the regulatory process.

The GMO policy controversy in the UK is related partly to the European Union, which provides a regulatory framework whereby developers do not have to obtain risk assessment in every single member state to commercialize their GMOs. It would be beyond the scope of this article to provide the details of this framework. Suffice it to mention that this framework was used by a coalition of member states in 1999 to impose a *de facto* moratorium on the commercialization of GMOs. Interestingly enough, the UK was not part of this coalition, preferring to work toward the design of policies addressing the public’s concerns, which justified the *de facto* European moratorium. This decision caused significant debates in the country, additionally fed by Blair’s apparent enthusiasm for
biotechnology. Uneasiness with the UK’s GMO policy was not without consequences, notably within the biotechnology industry and the food retail sector, which anticipated a consumer reaction against GMOs, prompting major supermarket chains to withdraw them from their shelves (Bernauer and Meins 2003). Michael Meacher, Blair’s environment minister, was the first from within the government to publicly express worries about the legitimacy of the UK’s GMO policy. From his perspective, a policy design for legitimacy was needed and to produce it he initially relied on output-oriented processes. It is in this view that he negotiated, in 1998, with the Supply Chain Initiative on Modified Agricultural Crops (SPUC), a group representing farming and the biotechnology industry, the Farm-Scale Evaluations (FSE). An output-oriented process, the FSE’s purpose is to gather knowledge on the environmental impact of three herbicide-tolerant crops – maize, spring oilseed rape and beet – about to be authorized for commercialization in the UK. The Advisory Committee on Releases into the Environment (ACRE), the government’s advisory body on the risks posed by GM crops in the UK, had completed its assessment of these three crops and considered them safe for the environment and health. SPUC agreed to wait until 2003, when the FSE were planned to end, to obtain the UK’s clearance for these three GM crops, which was not much of a concession given the EU moratorium.

The FSEs were clearly an output-oriented process, its main aim being to gather knowledge about GMOs. Michael Meacher also expected this knowledge to be policy-relevant. In a letter clarifying the purpose of the FSEs, he suggested that the knowledge should contribute to reflections about some policy options, including banning GMOs; the usefulness of scaling-up GM crops on the UK’s territory slowly; and the development of a post-commercialisation monitoring system (AEBC 2001, appendix). Interestingly enough, Meacher also acknowledged that the FSE would not be sufficient to make decisions on several of these policy options, often insisting on the necessity of conducting public consultations. The FSEs can be further understood as an output-oriented process through an examination of its governance. The FSEs were governed by a Scientific Steering Committee, whose members were drawn from academia and conservation research and thus comprised experts exclusively. Interestingly enough, these experts are entirely independent from industry. The Scientific Steering Committee was in charge of designing the research protocol and was responsible for the analysis of the results. Researchers participating in the FSEs, like regular scholars, were encouraged to publish the results in scholarly journals, thereby submitting their work to peer-review processes. This was to guarantee the scientific credential of the FSEs. Lastly, the five million pound budget of the FSEs was entirely funded by government. The FSEs were conducted on 273 sites across the UK between the years 2000 and 2003. Therefore, the specific nature of this output-oriented process, which rested on crop cultivation, conditioned its length: scientists agreed that three growing seasons were required.

In 1998, in parallel with the FSEs, the British government launched another output-oriented process to review the advisory and regulatory framework for biotechnology in the UK. Jack Cunningham, the Minister for the Cabinet Office held the responsibility for the review. Again, this process was led by experts, with Julian Kindereler, a law professor and a former member of ACRE, playing a key role in the organization of consultation and in the preparation of the final report. The list of 137 individuals consulted during this process is annexed to the report and comprises individuals who have scientific or experience-based knowledge about regulatory processes. It should be underlined that the review also sought to gather the views of the general public. A polling firm, MORI, was
asked to organize focus groups and interviewed a panel of 1109 individuals. I would dispute the view that this latter exercise was akin to an input-oriented process. Surveys and focus groups are ill suited to provide citizens with a sense of belonging. Moreover, interviewees confirmed that the focus groups and survey were nothing more than instruments to support the knowledge gathered through the output-oriented exercise. The entire review took place over a very short period. The whole process, from the public announcement of the review until the publication of the report, took just six months (Cabinet Office 1999).

Evidence from the discursive situation surrounding the regulatory review and from institutional reactions suggest that it achieved or came very close to achieving the full legitimacy potential of output-oriented processes suggested in figure 1. The report recommended the creation of advisory bodies to stimulate discussions over the social and ethical aspects of biotechnology. Clearly, this recommendation inspired agreement more than it stimulated debates. And in fact, the government acted rapidly upon it, notably with the creation of the Agriculture and Environment Biotechnology Commission (AEBC). The report recommended also increasing the transparency of bodies with regulatory responsibilities. This last recommendation generated more debates, as several groups felt it was not going far enough. And in the end, the government decided to go slightly further. First, it altered the mandate of ACRE, asking the organization to include ‘ecological imbalance’ as an element of its assessments of GMOs (Levidow and Carr 2000, p. 4). Prior to this change, ACRE was mostly looking at the agronomic risks related to GMOs. Second, the procedure to appoint members on ACRE was changed to guarantee the organization’s independence from industry. As a result, ten of the thirteen members were replaced by academics, with no relationship to industry (Toke and Marsh 2003, p. 237). All this suggests some consent on the part of politicians with the review.

Debates without agreement, rather than stemming from the regulatory review, came from the FSEs. First, the selection of the 273 sites caused significant discontent at the local level. In several areas, notably where organic farming had become prominent in the aftermath of BSE, local residents were furious to discover sites where FSEs were conducted. They complained that they should have been consulted before the attribution of sites to their localities and on the measures taken to protect conventional and organic crops from contamination. Second, AEBC, the body created to stimulate discussions over the social and ethical issues related to agricultural GMOs, decided that the local controversies arising from the FSEs was a good place to begin its work. Thus, in 2001, the AEBC published a report, *Crops on Trial*, feeding further into the debate over the FSEs. While acknowledging the potential usefulness of FSEs, notably because they ‘buy some time’, this report noted precisely the limits of this output-oriented process in terms of legitimacy creation: ‘The appropriate development of GM technology has suffered as a result of the lack of opportunity for serious debate about the full range of potential implications of GM agriculture... We suspect that far from offering reassurance, experience of the FSEs has tended to fuel further concerns’ (AEBC 2001, p. 12). Consequently, AEBC suggested that an input-oriented process should complement the FSEs as a basis for policy design. As the Commission wrote, ‘it will be important to ensure that future decision-making is based on the fullest information, is transparent and is inclusive... Ministers must, through proper consultation, engage with the public’ (AEBC 2001, pp. 15–16). This input-oriented process ‘sets out a path towards developing greater consensus about the future of agricultural biotechnology’ (AEBC 2001, p. 17). In the face of the controversy surrounding
the FSEs, Margaret Becket, the new Secretary for the Environment, appointed Michael Grant, a Cambridge University Professor, to organize a public debate on GMOs. Grant also chaired AEBC and was the main author of *Crops on Trial*. The debate organized by Grant came to be known as ‘GM Nation? The Public Debate’.

This latter process is undoubtedly input-oriented. It started with recognition that people and specialists alike disagree about the health safety, the environmental impact and the ethics of growing GMOs. On each of these issues, an effort was made to present the arguments of both sides of the debate in a document, a CD-ROM and on a Web site, albeit with limited success according to some assessments (Walls *et al.* 2005). To present these arguments, a series of meetings were organized across the UK between the fall of 2002 and the fall of 2003. Initial meetings were organized across the country by the organizing committee, one of whose purpose was to encourage the organization of additional meetings at the local level. It is estimated that around 600 such meetings took place. As indicated in *Crops on Trial*, the debate is premised on the assumption that public involvement in the controversy surrounding GMOs may contribute to forging some consensus. The organizing committee, chaired by Grant, identified a number of ‘key messages’ arising from these meetings: ‘people are generally uneasy about GM; the more people engage in GM issues, the harder their attitudes and more intense their concerns; there is little support for early commercialisation; there is widespread mistrust of government and multi-national companies’.

Despite these ‘key messages’, it would be far-fetched to argue that ‘GM Nation?’ created a convergence of beliefs. The official evaluation report of ‘GM Nation?’, *A Deliberative Future?*, clearly states that the process failed to create a deliberative environment and delivered messages overemphasizing a certain perspective on GMOs rather than representing the opinion of the UK population. Moreover, the report attributes several of the problems related to ‘GM Nation?’ to the combined effect of the time-constraint, scale of the process and resources (Understanding Risk Team 2004, p. 12). Suspicious early on, the Food Standards Agency (FSA) decided to make its own contribution to the GM debate by undertaking small scale input-oriented activities. Among these was a citizens’ jury, a procedure that resembles consensus conferences. Interestingly enough, a majority of jurors came to conclusions completely opposed to the key messages of ‘GM Nation?’.

As an example, jurors concluded that ‘the FSA and the government are trusted to make a responsible decision in relation to the sale of GM food and to monitor it effectively’. They added that ‘there is no sufficient proof regarding the negative effects of GM foods on either health or the environment, to make a case against allowing GM food to be sold in the UK’ (Food Standards Agency 2003, p. 15). Groups favourable to GMOs preferred the FSA’s process, even if its result was not entirely optimistic, over ‘GM Nation?’, which they argued was overtaken by vocal opponents to GMOs. ‘GM Nation?’ certainly failed to convince Blair to change his optimistic view about GMOs. While the FSE’s conclusion was relatively negative about GMOs, showing that all crops but herbicide-tolerant maize had a statistically significant negative effect on biodiversity, Blair attempted to swiftly approve the herbicide-tolerant maize (Farmscale Evaluations Research Team and the Scientific Steering Committee 2003). The policy designers of ‘GM Nation?’ and the FSE failed to convinced Blair to agree with their cautious discourse.

**Five policy design cases**

Five policy design cases are provided by these two biotechnology policy narratives. These five cases are consistent with the hypotheses I proposed regarding the impact of design
processes, their duration and their inclusiveness on policy design legitimacy. The five policy design cases are presented in Table 1. The highest degree of legitimacy was attained in the ART sector, thanks to an inclusive input-oriented process lasting six years. In addition, the ART public consultation was largely unplanned, with part of the process spilling over into Parliament. In contrast, ‘GM Nation?’ was a deliberate attempt to stimulate, but also to organize the debate over GMOs. Decisions were made on inclusiveness, intended to be large, and duration, intended to be short. As hypothesized above, inclusive input-oriented processes take longer to generate legitimacy. Unsurprisingly, then, ‘GM Nation?’ did not achieve the full legitimacy potential of input-oriented processes.

The regulatory review in the GMO sector is the output-oriented process which was associated with the lowest legitimacy deficit. It was also a short and exclusive process in comparison to the other two output-oriented processes. This empirical study suggests that output-oriented processes can be as short as less than a year to achieve their full legitimacy potential, revealed by a discursive situation displaying agreement without convergence.

CONCLUSION

Attentive to discursive situations, policy designers can make some procedural decisions to improve the legitimacy of their designs. When their mandate allows it, they can choose output- and input-oriented processes, decide on their duration and on their inclusiveness. I suggested in this article that output-oriented processes have a lower potential to produce legitimacy, but can do it faster. In contrast, input-oriented processes have a higher potential to prevent legitimacy deficits, but do it slowly. In other words, when legitimacy is the prime concern of policy designers, output-oriented processes should be short and involve a limited number of knowledgeable actors. Input-oriented processes should be long and involve a large number of citizens. The two biotechnology policy design narratives presented in this article provide five illustrations of varying design processes that are consistent with these proposals.

Design processes, their duration, and inclusiveness do not exhaust the entire range of possible factors having an influence on legitimacy deficits. These factors appear particularly important, however, because politicians, and the designers that they mandate, can make decisions about them. The article, therefore, has useful normative implications for politicians and designers. Output-oriented processes can be short, while input-oriented processes require time and inclusiveness to yield their full legitimacy potential.
However, the narratives also show that planning and organizing design processes too tightly can be deceiving. As suggested in Crops on Trial, ‘GM Nation?’ was, early on, intended and conceived as a process to produce legitimacy though inclusive deliberation. It may be, as suggested by the formal evaluation, that it failed at achieving its intended end because it was badly conceived (Understanding Risk Team 2004). In light of the cases that I presented here, it could also be argued that fulfilling a legitimacy deficit cannot be planed or organized entirely at the outset. Very little planning and organization enabled frequent adjustments to the ART consultation and these adjustments became necessary in order for belief convergence to have a chance to occur. Politicians and designers should keep in mind that policy design, as with any political process, is both largely unpredictable and difficult to plan and organize. I should underline that this conclusion goes against much of the literature on deliberative policy-making processes, which suggests that deliberation should not be let ‘wild’, but instead requires careful planning and organization (Callon et al. 2001, p. 210).

ACKNOWLEDGEMENT

The author would like to thank Yves Tiberghien, Adam Sheingate, Peter Loewen, Christine Rothmayr and the two referees of the Journal for comments on a previous draft. He also acknowledges the financial support of the Social Science Research Council of Canada.

REFERENCES

Einseidel, E.F., E. Jelsoe and T. Breck. 2001. ‘Publics at the Technology Table: the Consensus Conference in Denmark, Canada and Australia’, Public Understanding of Science, 10, 83–98.


Date received 18 April 2006. Date accepted 13 December 2006.