

Summary review statement

Research Project EV02035

Report reviewed: Exploring the relationship between environmental regulation and competitiveness - Phase II

Completed by: SQW Limited

Date of report: August 2007

Reviewers: Tim Foxon; Andrew Flynn; Kerry Turner.

Introduction

The role of external review is to provide an independent challenge to the science commissioned by Defra, to ensure that policy is informed by a high-quality, robust evidence base and to raise the perceived standard of Defra-funded science among stakeholders. The Advisory Group on SCP evidence has a role in quality assurance of research commissioned under the SCP evidence base research programme. This has been undertaken through expert sub-groups of the Advisory Group, including experts from beyond the Group's membership where appropriate.

Reviewers have been asked to rate the report in 10 categories and provide comments to justify the scores given. These reports have been used as the basis for this summary report, which has been compiled by Defra.

Objective of the research project

- The impact of the design and implementation of regulation on SMEs as compared to larger businesses;
- The forms of regulation most likely to induce innovation taking account of the different stages in the innovation process, the impact of timing of regulatory announcement and implementation, and the flexibility that can be built into regulations to reflect the specific market circumstances in which the regulated firms operate; and
- The importance of context (i.e. business sectors and/or environmental policy areas) in determining the extent of inducement effects of regulation on innovation, the areas where the inducement potential is highest, and the characteristics of sectors most likely to prompt firms to react to regulation in positive ways. Co-ordinating reviewer's comments

Summary of reviewers' responses

Reviewers were asked to rate the report on the following headings:

REPORTING AND METHODS

- 1) **Scope and Objectives.** Does the report address all aspects of the objectives of the study stated in the agreed specification?
- 2) **Quality of Approach.** Do the approach and methodology adequately address the objectives? Are there any weaknesses that could cast doubt on the conclusions?
- 3) **Assumptions.** Are any assumptions made in the report sound and clearly identifiable?

DATA AND ANALYSIS

- 4) **Evidence Base.** Does the evidence on which the analysis is based draw on appropriate, recent and relevant studies in this field? Is the evidence considered representative of the evidence that exists?
- 5) **Analysis.** Is the analysis sound, clear and appropriate for the report?
- 6) **Presentation of Evidence.** Are the figures and tables clear, adequate, not actually or potentially misleading, and do they support the inferences drawn from them?

CONCLUSIONS

- 7) **Use of Evidence.** Is effective use made of relevant subject matter and evidence - is any evidence ignored or under-represented? (Include evidence from within or outside the report – please give details).
- 8) **Conclusions and Recommendations.** Are the conclusions, policy implications, and recommendations clearly set out, based on the evidence gathered and logically argued? Are there any gaps or omissions?
- 9) **Reasoning.** Are conclusions based on judgement rather than evidence clearly recognisable?

OVERALL

- 10) **Rigour and Robustness.** Does the work represent sound and robust science and are the conclusions supported by the evidence and analysis presented?

Reviewers rated each aspect on a scale of a-e, where 'e' is *'not applicable'* and the 'd' and 'e' grades are sometimes not available. The table below shows the distribution of reviewers' grades for each aspect. The detail of the criteria set for each question and grade and a summary of reviewers' additional comments is provided on the following pages.

	a	b	c	b/c	d	e (not applicable)	Average score (MODE)
1. Scope and Objectives	✓✓	✓					a
2. Quality of Approach.		✓✓	✓				b
3. Assumptions	✓	✓	✓				b
4. Evidence Base.	✓✓✓						a
5. Analysis	✓	✓✓					b
6. Presentation of Evidence	✓	✓✓					b
7. Use of Evidence	✓	✓	✓				b
8. Conclusions and Recommendations	✓	✓		✓			b
9. Reasoning	✓	✓✓					b
10. Rigour and	✓	✓		✓			b

Robustness						
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Full text of questions and summary of reviewers' comments

Question		Reviewer comments
REPORTING AND METHODS		
1) Scope and Objectives. Does the report address all aspects of the objectives of the study stated in the agreed specification?		Majority of the reviewers found all the objectives to be stated satisfactorily. One reviewer felt that little text was devoted to the first objective which compares the regulation experience of SMEs and large companies. The consultants have address this in the final report. Also, the reviewer felt that with regard to the third objective the importance of the context on regulation and innovation discussed (p10-11) it is a rather narrow interpretation, especially given that a number of the case studies are drawn from overseas where different regulatory and political cultures will surely shape regulatory practice and innovation. In reply, SQW felt there that there is sufficient discussion of context in sections 3 and 4 plus the individual case studies. However, they took these comments on board and explicitly discussed this issue in the Executive Summary and the Conclusions sections of the report
a) all of the stated objectives addressed satisfactorily	✓✓	
b) most of the stated objectives addressed satisfactorily	✓	
c) few of the stated objectives addressed satisfactorily		
2) Quality of Approach. Do the approach and methodology adequately address the objectives? Are there any weaknesses that could cast doubt on the conclusions?		Majority of the reviewers felt that the approach was generally sound; some parts were weaker than others. One reviewer stated that one of the case studies worked better than the others and this was not predicted a priori. Another reviewer stated that report should address the literature on challenges of the case study approach. The consultants have addressed this point in their final report. They stated explicitly (in section 2) the limitations of a case study approach but stressed that combined evidence base of literature review and case studies have been used.
a) Quality of the approach is sound and robust. It is optimal for the scope / nature of the project.		
b) Quality of approach generally sound. Some parts weaker than others.	✓✓	
c) Weaknesses in approach could draw doubt on some of the conclusions.	✓	
d) Approach is such that conclusions could be flawed.		
e) Not applicable.		
3) Assumptions. Are any assumptions made in the report sound and clearly identifiable?		The reviewers were divided on the aspect of assumptions. One reviewer felt that that the assumptions are clearly identified and sound. Another reviewer felt that the assumptions are generally clear and justifiable in circumstances. Another reviewer commented that a) it is assumed that policy transfer is relatively straightforward but there is a very large literature on lesson drawing and policy transfer that suggests that in practice
a) Assumptions are clearly identified and sound.	✓	
b) Assumptions are identifiable and broadly in line with current thinking and/or are justifiable in the circumstances.	✓	
c) Assumptions are hard to identify and/or could lead to conclusions being incorrect.	✓	
d) Assumptions are not identified and/or are not based on sound judgement.		
e) Not applicable.		

		<p>matters are much more complex. This has important implications for how much weight can be attached to the recommendations; and b) policy problems are straightforward to define (see, for example, 4.44) whereas in many cases policy problems will be multi-faceted and subject to contestation and alternative definitions. The consultants have addressed the last comment in their final report.</p>
DATA AND ANALYSIS		
<p>4) Evidence Base. Does the evidence on which the analysis is based draw on appropriate, recent and relevant studies in this field? Is the evidence considered representative of the evidence that exists?</p>		<p>All the reviewers agreed that the analysis is drawn from appropriate, diverse, recent and relevant studies in the field. One reviewer stated that the material handled in a highly competent manner and well explained. Another reviewer felt that generally most evidence is given appropriate consideration. Another reviewer stated that report gives a good review of up to date literature and report.</p>
a) Evidence for the analysis is drawn from appropriate, recent and relevant studies in the field.	✓✓✓	
b) Evidence for the analysis mostly draws on appropriate, recent and relevant studies in the field.		
c) Evidence for the analysis is frequently drawn from inappropriate, dated and/or irrelevant sources.		
d) Evidence for the analysis is not representative of the evidence that exists.		
e) Not applicable.		
<p>5) Analysis. Is the analysis sound, clear and appropriate for the report?</p>		<p>Two of the three reviewers felt that the analysis is generally sound and one of the two felt that it would have been helpful for the interpretation of the case studies if in the report there had been some reflection on the quality of the data and the confidence that the report authors have in it. SQW took this point into account and made a general point in Section 2 about the quality of the data in the case studies. One reviewer felt that the analysis is logical and robust; a good review and insights from relevant case studies.</p>
a) Analysis is logical and robust. The most appropriate techniques / analyses have been used throughout.	✓	
b) Analysis is generally sound although more up to date / appropriate techniques could have been used.	✓✓	
c) Analysis is frequently inappropriate.		
d) Analysis is incomplete or flawed. It may have led to incorrect conclusions being made.		
e) Not applicable.		
<p>6) Presentation of Evidence. Are the figures and tables clear, adequate, not actually or potentially misleading, and do they support the inferences drawn from them?</p>		<p>Majority of the reviewers felt that generally the figures and tables add value to the report. One reviewer stated that the figures add value to the report and aid interpretation of results especially figure 2.1 which is helpful. Another reviewer felt that the report uses tables well to convey a large amount of information in accessible form.</p>
a) Figures and tables add value to the report and aid interpretation of the results.	✓	
b) Figures and tables are broadly sound and assist the reader. They could be improved to add clarity.	✓✓	
c) Figures and tables do not add value and in some cases may mislead the reader.		
d) Figures and tables are misleading and do not support the inferences made from them.		
e) Not applicable.		

CONCLUSIONS		
7) Use of Evidence. Is effective use made of relevant subject matter and evidence - is any evidence ignored or under-represented? (Include evidence from within or outside the report – please give details).		<p>The reviewers were divided on the aspect of assumptions. One reviewer commented that conclusions were logical and well supported by evidence. Another reviewer stated that generally most evidence is given appropriate consideration. Another reviewer stated that though the case studies are well written, make good use of the material and provide a number of very interesting insights into the nature of regulation and innovation in specific contexts, there are some doubts as to whether the context in which regulations are formulated, implemented and of business perceptions of regulation and innovation are sufficiently well developed (because of the relatively narrow interpretation of context).</p>
a) All relevant evidence is considered and given due weight	✓	
b) Generally most evidence is given appropriate consideration with one or two minor exceptions	✓	
c) There are some gaps in the evidence given and some evidence is given inappropriate weight	✓	
d) The report ignores or significantly under-represents pertinent subject matter or evidence		
e) Not applicable		

<p>8) Conclusions and Recommendations. Are the conclusions, policy implications, and recommendations clearly set out, based on the evidence gathered and logically argued? Are there any gaps or omissions?</p> <p>a) Conclusions, policy implications and recommendations are well presented, evidence based, logically argued and comprehensive</p> <p>b) Conclusions, policy implications and recommendations are generally well presented, logically argued, evidence based and comprehensive with some minor exceptions</p> <p>c) Conclusions, policy implications and recommendations are frequently not well presented, logically argued, evidence based or comprehensive</p> <p>d) Conclusions, policy implications and recommendations are very poorly presented, and are not logically argued, evidence based or comprehensive</p> <p>e) Not applicable</p> <p>Note : One reviewer gave it a rating of b/c</p>	<p>✓</p> <p>✓</p>	<p>The reviewers were divided on whether the conclusions, policy implications, and recommendations clearly set out, based on the evidence gathered and logically argued. One reviewer who gave it a rating of b/c stated that conclusions and recommendations that are drawn from and relate to the individual case studies are well grounded. However, where the conclusions and policy recommendations are based upon drawing generalisations and comparative lessons from the case studies they may be rather more ambitious than the evidence base would suggest. The consultants have addressed this point in their report. Another reviewer commented that the conclusions, policy implications and recommendations are generally well presented, logically argued and evidence based. Clear policy messages, based on the evidence, are presented in relation to different types of policy instruments being more suitable for diffusion or innovation, the need for coherent mixes of policies in general, and the importance of implementation and learning in relation what works in practice. Another reviewer stated that given the case study evidence, the conclusions were well specified.</p>
<p>9) Reasoning. Are conclusions based on judgement rather than evidence clearly recognisable?</p> <p>a) Yes there is a clear distinction between the two</p> <p>b) Broadly it is possible to distinguish between judgement and evidence based conclusions</p> <p>c) It is not clear whether conclusions are based on judgement or evidence</p>	<p>✓</p> <p>✓✓</p>	<p>Majority of the reviewers felt that broadly it is possible to distinguish between judgement and evidence based conclusions while one reviewer felt that there was a clear distinction between the two. One reviewer stated that conclusions do seek to draw upon the evidence but may well underestimate the challenges of policy transfer/lesson learning, the defining of policy problems and the nature of the regulatory process (e.g. stringency of enforcement see 5.6). The consultants have addressed this last point in their report.</p>
OVERALL		
<p>10) Rigour and Robustness. Does the work represent sound and robust science and are the conclusions supported by the evidence and analysis presented?</p> <p>a) Sound and robust science. Conclusions are wholly supported by the evidence and analysis presented</p> <p>b) Sound science. Conclusions largely supported by the evidence. Some improvements in the approach, analysis and interpretation would improve confidence in the conclusions</p> <p>c) The evidence provided does not fully support the conclusions</p>	<p>✓</p> <p>✓</p>	<p>The peer reviewers were divided on the rigour and robustness of the report. One reviewer commented that the robustness of the findings and conclusions could be strengthened by: a) linking the case study approach to the relevant literature so that there could be more confidence in the generalisations and comparative insights that are offered; and b) reflecting on the challenges of policy transfer to the UK. He gave a rating b/c. The consultants have</p>

<p>d) The evidence is of poor quality. It is not a sufficient base from which to draw the conclusions made</p> <p>Note : One reviewer gave it a rating of b/c</p>	<p>addressed these points raised in their report. Another reviewer stated that given the focus on technological innovation, the report represents sound science with conclusions supported by the evidence. Another reviewer commented that the conclusion were supported by supported by case study evidence.</p>
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