



**Evaluating the Impact of Regulation:
Developing a Methodology**

**Final Report to the Department of
Trade and Industry**

SQW

economic development consultants

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SQW Quality Statement

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Executive Summary

Study purpose and method

1. The Strategy Unit of the Department of Trade and Industry (DTI) commissioned SQW Ltd (SQW) to address the following questions with respect to regulatory impact assessment (RIA) methods:
 - How can the cost and benefits of regulation best be assessed *both* before and after they have been introduced?
 - How can a robust methodology be established that is *consistently applicable* across regulations that interact with each other?
 - How can these findings be effectively translated into an *improved* process of appraising regulations using the RIA process?
2. The method that was adopted to do this was three-fold: A review of the available guidance and the extensive international and academic literature on regulatory impact assessment; consultations with UK departmental officials responsible for RIA in general and in a sample of environmental and employment regulations (supplemented by document review); and further consultations with officials following the development of a proposed assessment framework and process and the preparation of an interim assessment and report.

Conclusions

3. The UK has placed considerable emphasis on strengthening RIA especially since 1998 and particularly with reference to the potential impacts on small businesses and competition effects. There is significant political commitment to RIA at the highest level and there is an established process for allocating ownership and responsibilities for RIA to appropriate government organisations. Moreover, continuous efforts are being made to improve the process and methods of RIA through Cabinet Office Guidance and the establishment of Better Regulation Units within departments and agencies to provide quality assurance and continuous improvements in the assessments.
4. Consideration of the further improvements that could be made in the UK approach to RIA suggested the areas for development summarised below.

Potential areas for improvement in UK practice of regulatory impact assessment		
	Assessment of individual regulations	Assessment across regulations
Integration	<ul style="list-style-type: none"> • Placing RIA appraisals in an ongoing process of assessment that prompts regulation monitoring, evaluation and feedback – i.e. the policy cycle referred to in HM Treasury's Green Book as Rationale, Objectives, Appraisal, Monitoring, Evaluation and Feedback. (ROAMEF) 	<ul style="list-style-type: none"> • Developing an understanding of the effects of a package of regulations on policy outputs and outcomes – in the economy as a whole or by specific sectors or groups of stakeholders

Potential areas for improvement in UK practice of regulatory impact assessment		
	Assessment of individual regulations	Assessment across regulations
Conceptual clarity	<ul style="list-style-type: none"> Incorporating a cascade of definitions in the Guidance that clearly distinguishes key concepts and the relationships between them 	<ul style="list-style-type: none"> Distinguishing between the concepts of cumulative and interactive effects and the different contexts in which they should be used
Segmentation	<ul style="list-style-type: none"> Refining the existing segmentations in RIAs with regard to the definition of markets – and groups of stakeholders – where the effects of regulation in particular policy fields could be expected to be particularly severe to focus appraisal, monitoring and evaluation 	<ul style="list-style-type: none"> Adopting a categorisation for the development of the evidence base on regulatory impacts that can be used by RIA practitioners and policy makers – a categorisation based around policy themes and outcomes, markets and/or groups of stakeholders
Analytical methods	<ul style="list-style-type: none"> Developing and using more explicit logic chains to link baseline conditions to the regulatory objectives and to the target outputs/outcomes Providing guidance on the analytical tools for regulatory appraisal and evaluation, on their use under different conditions and on interpreting the results 	<ul style="list-style-type: none"> Exploring the potential of different analytical methods for the assessment of cumulative effects across regulations Particularly, examining the potential for, and implications of, adopting an ‘adding up’ approach across regulations and time that takes account of policy costs and benefits as well as administrative or compliance costs.

5. The proposed priority areas for development amongst those identified above are:

- Integrating ex ante appraisal and ex post evaluation of regulations in an overall policy cycle which acknowledges that good regulation requires assessment at more than one point in time – as markets change, stakeholders behave differently and adjust and technology transforms production and consumption possibilities;
- Clarifying the key concepts in regulatory impact assessment by providing a taxonomy of relevant costs and benefits and explaining how they are linked and, in the context of assessing impacts across regulations and time, making clear the distinction between cumulative and interactive effects and the methods necessary to assess them; and
- Reviewing the evidence on impacts from ex ante appraisals of past regulations in specific policy fields and/or sectors to:
 - start to build a knowledge base from which benchmarks might eventually be drawn;
 - test the potential and robustness of an adding up approach to the assessment of cumulative costs and benefits (and the caveats appropriate); and
 - carry out ex post evaluative research to examine the validity of the ex ante estimates and to consider how the adjustment process might have affected both costs and benefits.

Recommendations

6. The recommendations arising from the study are set out over the page.

Recommendations

- | | |
|---|---|
| <p>1. Ground the assessment of regulations in a ROAMEF style policy cycle →</p> | <ul style="list-style-type: none"> • Cabinet Office to introduce the ROAMEF approach explicitly into the next version of the Guidance • Departments and agencies to be required to ensure that ex ante appraisals set out a logic chain describing how the proposed regulations are likely to have their intended effects – and identify the most significant areas of uncertainty • The concept of RIA to be broadened to embrace ex post monitoring and evaluation and appraisal reports to be required to recommend how, when and in what respects the regulation should be evaluated • Advice to be offered in the Guidance on the conduct of ex post monitoring and evaluation and reports required from departments and agencies on the results of evaluations • Cabinet Office and Better Regulation Units in departments and agencies to be required to adopt the above changes and to: <ul style="list-style-type: none"> ○ Provide quality assurance on ex ante appraisal and ex post evaluations ○ Become the custodians of the evidence base that evaluations will provide ○ Develop the evidence base into benchmarks and best practice |
| <p>2. Clarify key concepts in regulatory impact assessment →</p> | <ul style="list-style-type: none"> • Definitions of key assessment concepts to be revisited in the next version of the RIA Guidance, a taxonomy provided of the relevant costs and benefits and an explanation given of how they are linked • A cascade of nested definitions to be presented that clearly demonstrates their inter-relationships • Specifically, the distinction between cumulative and interactive effects of regulation to be made clear and the different policy contexts in which they should be used |
| <p>3. Develop more advanced segmentation analysis →</p> | <ul style="list-style-type: none"> • DTI to be required with other departments to draw on the body of knowledge available from the implementation of competition, consumer protection and other regulations and interventions to: <ul style="list-style-type: none"> ○ Provide advice and guidance on typologies of markets where regulation logic chains and transformation mechanisms might be expected to be materially different ○ Depict the nature and extent of any such differences and how they might be taken into account in future RIAs in similar markets ○ Identify where there are major gaps or uncertainties pertinent to RIAs that could be addressed through ex post evaluation • Cabinet Office and Better Regulation Units to be asked to: <ul style="list-style-type: none"> ○ Review RIAs to identify any policy areas and specific regulations where distributional effects might have been expected to be both likely and severe ○ Consider whether, in the light of this evidence, surveys of specific stakeholder groups should be carried out to establish the extent and severity of any potential distributional impacts ○ Ensure that the lessons from any such surveys are used to prompt review of the design and delivery of the relevant regulations(s) and are incorporated in a systematically maintained body of knowledge to inform future ex ante appraisals of regulations of a similar kind |
| <p>4. Test and develop methods for estimating cumulative impacts →</p> | <ul style="list-style-type: none"> • DTI to be tasked with carrying out ex post consideration of cumulative impacts across regulations and time in policy fields where adding up of the costs estimated in ante appraisals suggests a significant increase in regulation costs over the period and/or where the costs appear to reach a high proportion of total costs in the relevant market(s) in order to: |

Recommendations	
5. Build a knowledge base on analytical methods and evidence →	<ul style="list-style-type: none"> ○ Test the robustness of the adding up method for assessing cumulative costs of regulation as a whole (and for specific stakeholder groups – see Recommendation 3) when it has to rely on ex ante cost estimates perhaps derived on different definitions and by different methods ○ Develop more robust and consistent methods for ex ante estimation of costs and for adding them up to give cumulative costs and ○ Explore the extent to which conclusions that might be drawn from the adding up of cumulative costs should be moderated on broader definitions of costs (e.g. policy rather than administrative costs) and by the inclusion of cumulative benefits. ● Suggest the testing of the adding up approach should be confined to a specific policy area in the first instance but that it should involve the Cabinet Office and more than one other department or agency to ensure that the lessons learned are commonly owned and shared. <ul style="list-style-type: none"> ● Recommended that Cabinet Office works with departments and agencies to build a knowledge base that covers the following: <ul style="list-style-type: none"> ○ Descriptions of analytical methods relevant to regulatory impact assessment with case studies to show the circumstances in which they would be appropriate, how the methods should be used and the way in which their results should be interpreted; ○ Best practice examples in the design and application of the tools for implementing the methods – e.g. how to select representative samples of businesses and how to design effective telephone surveys for assessing regulatory costs; and ○ The outcomes from the application of different analytical methods with regard to the estimation of categories of regulatory costs, benefits and risks (especially countervailing risks).

A way forward in the short term

7. We propose that these recommendations should be piloted in a study confined to a specific policy area and involving the stages set out below.

A research programme for the short term
<ol style="list-style-type: none"> 1) Select regulations for piloting purposes (e.g. employment regulation where DTI has started the process) 2) Identify aspects where evaluation would be appropriate (e.g. where there were gaps and uncertainties in the appraisals) 3) Clarify key analytical concepts where these were vague and/or unspecified in the appraisals and suggest ways to assess them 4) Consider the market(s) and stakeholder groups where the effects were thought likely to be most significant 5) Estimate cumulative costs and benefits across the regulations by adding up from the appraisals and identify gaps and weaknesses 6) Carry out evaluations of the regulations where the gaps, uncertainties and effects were most severe – through surveys and focus groups with businesses and employees 7) Propose roll-out of lessons learned for assessment methods

1 Study purpose and method

Study purpose

1.1 The purpose of the study as set out in the Terms of Tender by the Strategy Unit in the Department of Trade and Industry (DTI) was to address the following three questions:

- 1) How can the cost and benefits of regulation best be assessed *both* before and after they have been introduced?
- 2) How can a robust methodology be established that is *consistently applicable* across regulations that interact with each other?
- 3) How can these findings be effectively translated into an *improved* process of appraising regulations using the RIA process?

1.2 These research questions are very much follow the conclusions of the 2002 OECD review¹ that, whilst the UK was in a leading position amongst OECD countries in defining requirements and guidelines for regulatory management, it needed to continue to seek improved ways of delivering high quality regulations by addressing the following issues:

- “Obtaining continued efficiency gains currently constrained by the lack of coherent and systematic cost-benefit appraisals of regulatory proposals and by an insufficient knowledge about the impact of ‘soft law’ and regulations within government”; and
- “Comprehensive evaluations of the regulatory ‘super-structure’ and the cumulative burden of regulations not least of the multitude of regulatory institutions and control mechanisms”;
- “Recognising the many benefits of the informal and flexible British regulatory system, a higher degree of formality and enforceable criteria may raise de facto transparency”;
- “The complexity of the institutional structure and the informality of many procedures may blur or reduce the responsibility chain of regulatory policy-makers and the accountability for outcomes”; and
- “Though the principles and potential for regulatory quality management are permeating the policy-making process, indications are that further efforts are required to truly embed such awareness in the administrative culture of senior-policy-makers”.

¹ OECD: Regulatory Reform in the UK: Government Capacity to Assure High Quality Regulation: 2002

1.3 The Terms of the Tender required a particular focus on the second of the above issues but, in considering what had been done or proposed with regard to the treatment of interactions between regulations, we were drawn into an exploration of the other issues identified by the OECD as warranting attention in the UK. This was reflected in our specification of the research programme (Annex A) and tools for the study (such as the topic guide for our consultations with UK departmental officials). We have not confined our attention to the technical matters associated with assessing interacting regulations but have extended our inquiry to the more general issues of regulatory management structures, systems and processes.

Study method

1.4 Following an initial meeting with the study Steering Group to discuss the detailed scope of the work, we prepared a project specification and work programme comprising the stages set out in Figure 1.1.

Figure 1.1: Work programme
<ul style="list-style-type: none">• Stage 1: Inception and specification - to agree the detailed project specification, work programme and key outputs;• Stage 2: Review of guidance and the wider regulatory impact assessment literature – to assess the methods for assessing costs and benefits of regulations, especially with regard to interaction between regulations and to review the technical and wider regulatory management issues involved;• Stage 3: Review of a sample of regulations - to consider the treatment of costs and benefits and particularly interactions between regulations and what might have been done to address the issues more effectively;• Stage 4: Development of an assessment framework – to draw on the evidence to suggest an improved assessment framework in which interactive effects in particular could be better accommodated;• Stage 5: Interim report – to summarise interim findings and proposals and to suggest a way forward to enhance the existing regulatory assessment framework and management process;• Stage 6: Review of the regulatory policy and management process – to identify how the process might be improved to address issues of interactive impact and any other issues that might have been revealed in the course of the study;• Stage 7: Final report – to provide a final account of the study findings and the implications for development of the regulatory policy and management process.

1.5 Stages 2 and 3 of the study required consultations with officials responsible for regulatory impact assessment in general and in the context of specific regulations in the environmental and employment policy domains (as agreed with the DTI) – see Annex B for the list of those consulted and the topic guide that was used for this purpose. These stages of the study were also informed by a review of the guidance and literature both on international regulatory policy experience (especially as it related to the treatment of interactive effects) and on the specific regulations we were asked to consider (see Figure 1.2). Annex C provides a bibliography of the guidance and literature reviewed.

1.6 Annexes D and E provide an account of the specific environmental and employment regulatory assessments that were reviewed in Stage 3 to inform consideration of the ways in

which impact assessment might be improved, particularly to take account of interactive impacts between regulations.

Figure 1.2: Sample Regulations			
Regulation	Full/Partial RIA	Year	Key Objective(s)
End of Life Vehicles (ELV) Directive	Full RIA	2003	Environmental protection through the reduction in the amount of waste that is produced from end of life vehicles
EC Directive on Waste of Electrical and Electronic Equipment (WEEE)	Partial RIA	2004	Reduction of WEEE through the encouragement of re-use, recycling and recovery of WEEE and to improve the environmental performance of all operators involved in the lifecycle of electrical and electronic equipment
Improvements to Statutory Maternity Pay (SMP)	Full RIA	2001	Improve and extend current SMP arrangements.
Employment Act 2002: Regulations on Maternity Leave and Paternity and Adoption Leave and Pay	Full RIA	2002	Simplify and improve key areas of current intervention, delivering transparency, certainty and improved planning time.
The Part Time Workers (Prevention of Less Favourable Treatment) Regulations	Full RIA	2000	A) To provide for the removal of discrimination against part time workers and to improve the quality of part time work and (B) to facilitate the development of part time work on a voluntary basis and to contribute to the flexible organisation of working time in a manner which takes into account the needs of employers and workers.
Health and Safety Articles of the Directive on the Protection of Pregnant Women and Women who have recently given birth	Costings assessment	1993	Improve the health and safety at work for the aforementioned group through requiring employees to undertake and act upon risk assessments and, if involved in night work, to provide alternative suitable day work or paid leave.

Report structure

1.7 This Final Report of the findings from the study is presented according to the following structure:

- **Section 1: Study objectives and methods;**
- **Section 2: The current position** – briefly sets out our understanding of the current position with respect to both the assessment of individual regulations and the overall management of regulatory assessment;
- **Section 3: Improving the assessment of individual regulations** – suggests that the assessment of individual regulations should be more firmly grounded in the appraisal

and evaluation cycle set out in the Treasury's Green Book² - specifically through integration of ex post with ex ante assessment;

- **Section 4: Improving assessment across regulations** – considers the methods that could be adopted, ex post as well as ex ante, to allow for more systematic assessment of the costs and benefits across regulations;
- **Section 5: Conclusions and recommendations** – draws out the implications of the study for the ways in which the current process could provide for more effective assessment of individual regulations and for more systematic consideration of the costs and benefits across regulations.

² HMT; Green Book, Appraisal and evaluation in central government; 2003 - <http://greenbook.treasury.gov.uk/chapter02.htm#theappra>

2 The current position

Introduction

- 2.1 This study involved a review of the academic and international evidence base, consultations with DTI and other departmental officials and reviews of the UK Guidance³, other reports on regulatory impact assessment⁴ and the assessments of a sample of regulations. These sources suggested to us that there needed to be a clear distinction drawn between the issues associated with the assessment of an individual regulation and those that arose with regard to the overall assessment of regulatory burdens and benefits across a range of regulations. We have maintained this distinction throughout our report.
- 2.2 Nevertheless, our investigations also revealed a convergence on four issues where there appeared to be room for improvement in different ways in both the individual and collective assessment of regulations, namely the potential to:
- Integrate ex post evaluation with ex ante appraisal to inform the implementation of a regulation and to build an evidence base that may be helpful to future regulatory appraisals;
 - Clarify the definition and use of basic concepts in the assessment of an individual regulation and in developing a better appreciation of the cumulative burdens and benefits across regulations;
 - Adopt a stronger segmentation approach to the assessment of individual regulations to acknowledge that impacts may often be more profound in some markets and for some stakeholders than others and use such an approach as a method for categorising cross regulation effects (e.g. by sector); and
 - Develop the use of appraisal and evaluation methods in individual regulatory assessments and in assessing the cumulative effects across a range of regulations.
- 2.3 Consequently, we have organised this section and the rest of our report around these themes.

³ Cabinet Office: Regulatory Impact Assessment Guidance (referred to in the rest of this report as the Guidance) – http://www.cabinetoffice.gov.uk/regulation/ria/ria_guidance/index.asp. This was updated in early April 2005 as this report was being finalised. We have sought to make sure that our references and comments with respect to the Guidance take account of the changes that have been made in the most recent version.

⁴ For example, the NAO Evaluation of Regulatory Impact Assessments Compendium Report 2004-05 - <http://www.nao.org.uk/pn/04-05/0405341.htm>

Integration of evaluation with appraisal

Integration - assessment of individual regulations

- 2.4 The UK has placed considerable emphasis on strengthening regulatory impact assessment (RIA) especially since 1998 and particularly with reference to the potential impacts on small businesses and competition effects. There is significant political commitment to RIA at the highest level and there is an established process for allocating ownership and responsibilities for RIA to appropriate government organisations.
- 2.5 Clearly, RIAs bring discipline and rigour to the regulation making process. They prompt decision-makers and policy analysts to think critically about the implications, both positive and negative, of the regulations they propose. They provide a framework in which this can be done and they help build capacity in regulatory agencies to carry out appropriate analysis and assessment. They also inform debate about the regulations amongst the relevant stakeholders and provide a foundation for testing assumptions with evidence and for challenging judgements.
- 2.6 However, RIAs are only as good as the policy and management framework that requires them and the information that feeds them. In other words, RIAs are a tool – they are not a substitute for the policy making and management process. That is why the OECD⁵ urges that RIAs should be integrated within the policy making process - recognising that “assessment” encompasses ex post evaluation as well as ex ante appraisal (which tends to be regarded as synonymous with RIA).
- 2.7 It is our reading of the situation that the UK shares the experience with a good many other countries that RIAs:
- tend to be conducted as ex ante appraisal of regulations often in ad hoc and partial ways within departmental/agency silos. - the effect is that the vocabulary and methods for appraisal especially as they relate to interactive effects are not well developed;
 - emphasise the financial over the economic aspects of the assessment partly because of the difficulties of tracing in a quantified way the costs and benefits of the regulations (especially the indirect effects) and partly because of time and resource constraints on the conduct of the assessment;
 - tend to analyse systematically one regulatory option, instead of comparing regulatory options and alternatives to traditional regulation; and

⁵ OECD: Regulatory Reform in the UK: Government Capacity to Assure High Quality Regulation: 2002

- do not as yet systematically embrace ex post evaluation⁶ although the current Guidance suggests that provision should be made within an RIA for post-implementation review⁷ and a monitoring and evaluation plan has recently been published by the DTI to measure the impact of employment relations introduced since 1997⁸.

2.8 These observations lead us to suggest that there could be a more integrated approach to regulatory management along the lines of the ROAMEF appraisal and evaluation cycle set out in the Treasury Green Book⁹. This would give very much more emphasis to the role for ex post monitoring and evaluation of regulatory impacts than currently appears to be the case even in the revised RIA Guidance. We think the horizontal strand in the DTI employment relations monitoring and evaluation plan referred to above is a model which should be adopted more widely (see Figure 2.1 for a brief account of the framework adopted in the plan).

Figure 2.1: DTI Employment Relations Monitoring and Evaluation Plan: Framework

The DTI plan sets out a framework for monitoring and evaluation as follows:

- **Horizontal strand** – for each measure in the legislative package (e.g. the Working Time Regulations) to set out:
 - the expected costs and benefits (from the RIA)
 - claims made by stakeholders with respect to the anticipated effects of the measures
 - the availability of information from standard statistical sources relevant to the expected measure effects
 - additional DTI monitoring and evaluation
 - overall results on the measure effects
- **Vertical strand** – identifies output/outcome themes and indicators that the package of measures might be expected to influence (e.g. quality of employment relationships or work/life balance), anticipated effects attributable to the legislative package, the evidence from standard statistical sources that might be relevant, additional DTI monitoring and evaluation activities that might be appropriate (e.g. a survey of employers' awareness, perception and practices) and the results from the various sources of evidence
- **Integrating the horizontal and vertical strands** – sets out the monitoring and evaluation activities from the two strands, identifies the legislative measures to which the sources of evidence will be most relevant and the output/outcome indicators that could be generated.

⁶ The US Office of Management and Budget observed in its draft 2005 report to Congress that “most of these rules [introduced since 1981] have never been subject to an ex post analysis to determine whether they worked as intended and what their actual benefits and costs were. There is no systematic and comprehensive requirement for Federal agencies to validate their pre-regulation estimates of benefits and costs based on actual experience with the rule”.

⁷ See the Cabinet Office Guidance (April 2005) - http://www.cabinetoffice.gov.uk/regulation/ria/ria_guidance/post_implementation_review.asp

⁸ DTI: Employment Relations Research Series No 34: Employment relations monitoring and evaluation plan 2004 (September 2004) - <http://www.dti.gov.uk/er/emar/errs34.pdf>

⁹ <http://greenbook.treasury.gov.uk/chapter02.htm#theappr> The Green Book observes that “appraisal and evaluation often form stages of a broad policy cycle that some departments and agencies formalise in the acronym ROAMEF (Rationale, Objectives, Appraisal, Monitoring, Evaluation and Feedback).”

Integration - assessment across regulations

- 2.9 For a variety of reasons – some of which are to do with the intrinsic information and conceptual difficulties associated with the conduct of a comprehensive RIA, the methods adopted in the UK are not to any set formula and the consequence of this is that there is significant variety in the quality and nature of the quantitative analysis. The OECD¹⁰ concluded that this made it difficult to compare and monitor RIAs across time and across government departments.
- 2.10 This was confirmed from our consultations where we encountered differences of interpretation with regard to some of the basic assessment concepts (such as regulatory costs) and a good deal of confusion about the term cumulative effects. In these circumstances, it was therefore not surprising that we found no accumulation of evidence about regulatory impacts within or across types of regulation, policy domains or specific sectors of the economy. It is worth noting in this context that the NAO, in its most recent RIA Compendium Report 2004-05¹¹, felt obliged to recommend to the Cabinet Office that it should update its website regularly to ensure all RIAs are included. As it pointed out, *“if RIAs are to maximise their influence and to serve as a communication tool, it is important that businesses and others can obtain up to date lists of RIAs”*.
- 2.11 We think that it would be important to go further and for all RIAs and any post-implementation reviews, monitoring data and ex post evaluations to be reviewed for the evidence that they might reveal with regard to regulatory effects and for the potential for benchmarks to be developed from that evidence on which future RIAs could draw. In other words, we think it would be beneficial if the ROAMEF policy cycle was adopted for regulations more generally – although, in the first instance, perhaps confined to particular policy areas. This appears to be the approach being adopted in the DTI employment relations monitoring and evaluation plan referred to earlier which builds in a vertical strand of activity that seeks to assess the combined effects of the legislative package of regulations on particular policy themes and outputs/outcomes (see Figure 2.1).

Understanding and use of assessment concepts

Concept clarification - assessment of individual regulations

- 2.12 The critical first step in setting up an assessment framework for regulation - in fact, any intervention - is to define the key concepts that will form the backbone of analysis of its costs and benefits.

¹⁰ OECD: Regulatory Reform in the UK: Government Capacity to Assure High Quality Regulation: 2002

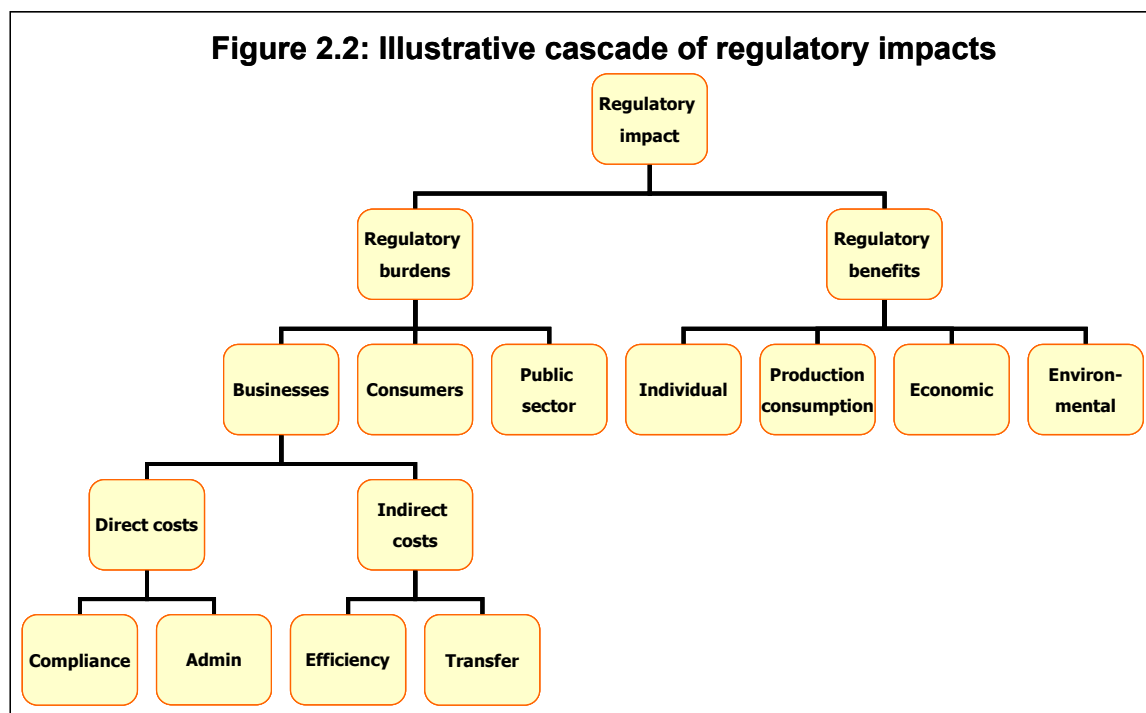
¹¹ NAO RIA Compendium report 2004-05 (March 2005) - http://www.nao.org.uk/publications/nao_reports/04-05/0405341.pdf

- 2.13 It was evident from our consultations and review of the sample RIAs that there was a lack of consistent understanding and application of some key assessment concepts such as:
- Direct and indirect effects
 - Typologies of costs
 - Burdens and impacts
 - Cumulative impact/burden
 - Gross and net costs
 - Financial and economic analysis
- 2.14 Some of these concepts are clearly defined in the Cabinet Office Guidance but our review suggested that, even where this was so, some terms are still used interchangeably and inappropriately both within the Guidance and in RIAs. The most common examples are in the use of terms such as policy, compliance, administrative and cumulative costs.
- 2.15 There can be no doubt that regulatory impact assessment is complex and quantitative analysis problematic. This would explain why full-blown impact and cost-benefit analysis is rarely undertaken – here or anywhere else. But, it does not explain why there is inconsistency amongst senior officials in their understanding of some key concepts. So, we think three other factors may be at work:
- 2.16 First, existing guidance may not be clear enough with regard to its definition of terms so that distinctive concepts are still used as if they are interchangeable. Consider the distinctions that are made in Figure 2.2 (which we have adapted from a USA source¹²) as an illustration of the range and typology of regulatory impacts. We suggest that, if a cascade of definitions similar to Figure 2.2 was developed and made common currency, then terms such as impacts/burdens/costs would not be used without acknowledgement of their significant distinctions.
- 2.17 Second, even if the distinctions in the figure were clear to all those concerned, there is not a lot in the Guidance on how to think through each element within the cascade of possible effects. Hence, we observed a tendency in the RIAs we reviewed to acknowledge the possibility of certain effects – e.g. indirect and interactive impacts – but a reluctance to say any more about them. This observation was confirmed in a recent NERA report¹³ from its review of regulatory assessments in a policy field that we did not review (financial

¹² Source: Kopp, Krupnick and Toman (1996), *Cost-Benefit Analysis and Regulatory Reform*, Resources for the Future, Washington DC

¹³ NERA: *The FSA's Methodology for Cost-Benefit Analysis*: November 2004

regulation). “The EFR is not always satisfied with the quality of economic analysis produced by policy-makers particularly on market impacts . . . [analysis] tends to focus primarily on compliance costs with less attention paid to other market impacts”. This is not necessarily a fault in the Guidance or in those carrying out assessments – it may simply reflect the lack of systemised evidence to suggest that a regulation of type A designed to secure outcomes B in market C might have indirect or interactive effects D that deserve to be examined particularly closely by method E.



- 2.18 Third, the available analytical methods that might give substance to the concepts may not be practicable to apply within the time and resource constraints of the RIA. The natural response of the assessment team in these circumstances would be to acknowledge the potential of an effect but to concede that it could not be explored further.
- 2.19 The first of these possible explanations could be readily addressed by revisions to the RIA guidance. The second would require the systematic accumulation and dissemination of ex post evidence on the impacts of regulation. The third explanation concedes that some impacts of a regulation – and potentially serious ones – are not likely to be knowable before it is introduced and, hence, increases the case for post-implementation reviews and evaluations.
- 2.20 Our terms of reference required specific consideration of the treatment of interactive effects and we found this to be a concept on which there was particular confusion. The Guidance acknowledges that RIAs should take account of the potential effect of overlapping regulations but does not prompt the measurement and analysis of interactive impacts. Therefore, it

should not be surprising or a point of criticism that our review of the sample of regulations revealed that these impacts were not systematically or transparently addressed or quantified.

- 2.21 Nevertheless, we found examples where overlaps between regulations were taken into account although this tended to be considered in a conceptual rather than quantitative way. For example, the assessment of the part-time workers regulation emphasised that some of the benefits (e.g. the increases anticipated in average weekly gross pay and non-wage benefit entitlements) may be overestimated as a result of the simultaneous introduction of the National Minimum Wage which was intended to reduce the levels of discrimination between full-time and part-time workers. But, it does not quantify the extent of over-estimation nor indicate the scale of its potential significance.
- 2.22 Some of the regulations sought to deal more fully with interactive effects but without explicit use of the term. For example, the assessment of the extension to Ordinary Maternity Leave (OML) and the improvement to Additional Maternity Leave (AML) took account of the combination of these changes with the earlier SMP and MA rate increases. The significance of this is that, had the assessment of the OML and AML not taken account of this interaction, it could well have significantly under-estimated the benefits which were substantial - related to the output of more mothers remaining in employment with recruitment and training savings for employers estimated as being up to £39million/year.
- 2.23 Consideration of the interaction between the implementation costs of different regulations was also evident with respect to the regulation covering protection of pregnant women and women who have recently given birth. The assessment of this regulation recognised that *“some aspects of this provision including those related to lifting are covered by the EC Directive on Manual Handling”* and that *“the costs of adjusting the working conditions of women exposed to agents should be minimal . . . because these are already addressed by existing regulations”*.
- 2.24 The assessment of the ELV Directive also contained acknowledgements of interactive impacts between it and a range of other related environmental regulations¹⁴ but only in terms of their potential relevance - although, in some cases, the scope for harmonisation in implementation was recognised. For example the assessment recognised the overlap between the ELV and the Hazardous Waste List (HWL) and proposed to produce a combined guidance note for both Directives.
- 2.25 The potential interactive impacts of regulations received some recognition in the ongoing assessment of the WEEE Directive. It acknowledged the potential interactions between the

¹⁴ The Landfill Directive, EC Waste Framework Directive, Environmental Protection Act, the Waste Management Licensing (WML) Regime and the Hazardous Waste Regulations

Directive and the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) Directive, the Ozone Depleting Substances (ODS) Regulations and the Landfill Directive. The latter of these interactive impacts was quantified in terms of a set of estimates of the reduction in the amount of landfill that might occur as a result of the WEEE Directive.

Concept clarification - assessment across regulations

- 2.26 If, as we have suggested, there are legitimate concerns about consistency in the understanding and application of basic concepts for the assessment of individual regulations, then consider the difficulties of dealing with and applying the concept of the cumulative effects of regulation. Our consultations revealed no consensus on the definition of this term – and, in some cases, a tendency to treat it as the same as interactive effects.
- 2.27 The literature reviewed (see Annex C) suggested that it is misleading to conflate the terms cumulative and interactive regulatory burdens/costs or impacts. The distinction is important because the contexts in which the two concepts should be applied are quite different. We suggest the following definitions capture the critical differences between the two concepts:
- **Cumulative burden** (or impact where benefits are included) reflects the presence of a stock of regulations and their associated costs (and benefits where concern is with cumulative impacts) that will affect a business or sector without necessarily interacting at the level of policy goals, risks or market behaviour – the concept has most relevance where the effects of a legislative package of regulations need to be understood at the level of the economy as a whole or within particular sectors or for specific groups of stakeholders;
 - **Interactive burden** (or impact) relates to the consequences of interactions between one regulation and others (e.g. in the way they are administered) and whose effects may be less or greater than the sum of their direct costs and benefits because of the longer term dynamic effects of interaction.
- 2.28 The two effects can combine where cumulative effects involve interaction between regulations in a dynamic way that influences business behaviour and performance over time. For this reason, we think it appropriate to depict the effects as in Figure 2.3.
- 2.29 Perhaps at the cost of over-simplification, our understanding is that the current UK situation can best be described as being located in Cell D of the matrix. In other words, there is little by way of assessment methods or evidence to inform understanding of either cumulative or interactive regulatory impacts – or even burdens or costs. Whether positioning the UK in this way (and, by the way, many other countries as well) is reasonable or not, it could be useful to think of Cell D as a conceptual baseline. The question for the study then becomes whether

there are specific tools, methods and/or processes that might facilitate a shift into any of the other cells in the matrix.

Figure 2.3: Typology of cumulative and interactive impacts			
		Interaction between the costs and benefits of one regulation and others	
		Yes	No
Cumulative impacts – costs and benefits – across regulations	Yes	A	B
	No	C	D

2.30 In the light of our review, we suggest that it would be desirable for the further development of regulatory assessment methodologies to start with a fresh look at the definition of key concepts. This is especially the case with regard to cumulative regulatory burdens which have been a recent preoccupation of Government departments because of concerns expressed about this by business and the need for a political response.

Application of segmentation in assessments

Segmentation - assessment of individual regulations

2.31 Segmentation is used in existing regulatory impact assessments to identify sectors or groups that may be disproportionately affected by the regulation. The Guidance prompts the use of segmentation and this was reflected in the assessments we reviewed where the following types of segmentation were used:

- **Sector of economic activity** – identification of the business sectors (by SIC code) which are most likely to be affected by the implementation of the regulation
- **Business size** – some recognition was given to the differing effects the regulations will have on firms of various sizes, albeit limited to the distinction between large and small firms and using the Small Firms Impact Test to analyse impact of regulation on small firms
- **Competition effects** – brief acknowledgement and assessment of the likely impact on competition of the regulations, following the RIU guidance

2.32 However, neither the Guidance nor the assessments we reviewed were precise with regard to the definition of these segments (apart from defining ‘small firms’) nor about how they might be defined. Even the ‘*Guidelines for competition assessment*’ prepared by the Office of Fair

Trading (OFT)¹⁵ does not explain how markets are defined for the purposes of the assessment of the impact of regulations on competition. It states that “*the extent to which the competitive process (and hence competition) may be affected will depend on the structure of the market(s) or sector(s) affected by the regulation*” but it does not advise on how the sectors or markets should be specified. Hence, it is not surprising that the regulatory assessments we reviewed do not talk about markets with the discipline which the OFT more recently has sought to bring to the definition of the term (which is couched in terms of product markets, geographical markets and temporal markets)¹⁶.

- 2.33 Typically, the RIAs we examined defined **markets** in terms of the SIC code (where a definition was offered at all) and then usually at the aggregate 1 or 2 digit level (the 2004 assessment of the ELV Directive was exceptional in its use of the 4 digit classification). Moreover, even where sectoral assessments of potential impacts were carried out, the analysis tends to be light-touch and insufficiently focused on assessing potentially disproportionate impacts.
- 2.34 For example, the RIA for 2001 Improvements to Statutory Maternity Pay (SMP) Regulation identifies the proportion of all female 16-30 and 30-45 year olds working within broad sectors of the economy. However, the analysis did not reveal the proportion that this represented in the total employment of each sector. Hence, it showed that the ‘manufacturing’ and the ‘health and social work’ sectors each employed 9% of all employed females aged between 16 and 30s. But, since they represent a higher proportion of total employment in health and social work than in manufacturing, the former sector is likely to be disproportionately affected by a regulation targeted on this employee group. An analysis of this kind at higher levels of disaggregation - using 3 or 4 digit SIC codes for example - and cross referencing this analysis by firm size could have provided deeper insights into the potential significance of the regulation for specific industries and businesses.
- 2.35 The assessment of the WEEE Directive acknowledged the potential effects of the regulation by **business size** but did not consider entry barrier and threshold effects. This would have added value to an assessment of a regulation that was based on a producer responsibility model where the effects on competition might have been expected to be particularly important.
- 2.36 There was little recognition given to the potential **spatial dimensions** of the regulations we reviewed even where this might be relevant – as in the case of the WEEE Directive where reliance was to be placed for the implementation of the regulation on the existing collection infrastructure for household waste and where it might, possibly, have differential effects on the civic amenity functions of peripheral rural areas as compared with urban areas. We

¹⁵ OFT: Guidelines for competition assessment – a guide for policy makers completing RIAs: February 2002

¹⁶ OFT: Market Definition : Draft competition law guideline for consultation; April 2004

suspect that the spatial effects of regulation are more likely to be important in consideration of equity rather than efficiency consequences of regulation.

- 2.37 Overall, we found that there was no close integration between segmentation analysis and the analysis of costs and benefits that followed within the RIA. The Small Firm Impact Test did not always involve a quantification of impact for small firms. Also, the analysis of the sectors that might be most severely affected by a regulation was generally not translated into sectoral variations in costs or benefits.

Segmentation - assessment across regulations

- 2.38 We have already noted that systematic efforts to build a body of evidence on the impacts of regulation have either not been planned or are in early phases of development (e.g. the DTI employment relations monitoring and evaluation plan). We think it is desirable to build such an evidence base and that consideration should be given to adopting a categorisation for this purpose and for any benchmarks that might be generated from it that would be of most benefit to those involved in individual regulatory impact assessments (i.e. within particular departments) and those who might be charged with taking an overview of regulatory burdens and benefits.
- 2.39 Such a categorisation might be based on market segmentation (e.g. sectors or markets), types of businesses (e.g. start-ups and small businesses), spatial dimensions (e.g. urban-rural) and/or policy areas (e.g. employment or environmental). This is consistent with (but goes a bit further than) the NERA report¹⁷ which suggests that cumulative regulatory impacts should be investigated within a defined market and compared with the relevant market failures and/or regulatory objectives for that market. NERA suggests that the scope of any such investigation should be defined in terms of the relevant economic market (i.e. goods or services that firms are competing to provide) but concedes that “*in some cases it may be more practical for the analysis to cover a particular group of firms where the applicable regulatory framework transcends a number of economic markets*”. We take this to be consistent with our suggestion that size of firm and/or spatial area might be an appropriate way to consider the cumulative impact of regulations.

Use of analytical methods

Analytical methods - assessments of individual regulations

- 2.40 There is a well-established procedure which ex ante assessments of the impact of a proposed regulation are expected to follow as defined in the Guidance. This comprises an analysis of

¹⁷ NERA: The FSA's Methodology for Cost-Benefit Analysis: November 2004

predicted costs and benefits supplemented by application of the Small Firms Impact Test and Competition Assessment for assessing the degree to which potentially disproportionate impact might be expected. The Guidance also advises that use should be made of environmental impact assessment, rural proofing and race equality assessments.

- 2.41 The RIA analysis of costs and benefits within this procedure often involves quantification of the implementation and other costs to business, usually direct costs, with benefits often outlined and acknowledged but seldom quantified owing to estimation difficulties. The analysis is usually preceded by focused consultations in the earlier stages of partial RIAs where interested and potentially affected parties are asked about the impact of the regulation in question.
- 2.42 Our review of the methodology provided by the Guidance and used in the RIAs of our sample of environmental and employment regulations revealed the following:
- A general absence of an explicitly stated logic chain linking baseline conditions with regulatory objectives and through to outputs and outcomes;
 - Standard methods of assessing regulatory impact ex-ante are well established and consistently used by regulators; these are consultations, surveys and categorisation of costs and benefits within the remit of the RIA
 - Currently segmentation analysis is limited to identifying the number of business sectors, assessment of impact on small firms and going through the competition checklist;
 - Current methods do not account for interactive impacts mainly because they are potentially difficult to quantify and there is no existing guidance on which methods to use for such impacts.
- 2.43 There is no equivalent of the Guidance for ex-post evaluation of the impacts of regulation but, as already noted, the most recent version of the Guidance includes the requirement for a post-implementation review to establish how well a regulation is meeting the policy objectives and whether government action is still needed. However, the evidence from the RIAs we examined was that the proposals they contained for ex post review and evaluation were poorly specified in terms of their focus and the methods they should use. Whilst there was evidence that methods for ex post assessments, such as business and employee surveys, had been conducted on an ad hoc basis, our review suggested that they were generally not linked back to the expectations and objectives set out in the relevant RIA.
- 2.44 As for interactive effects, there was no evidence from our consultations and reviews of practice that there are any well-established analytical methods in use to capture such effects.

- 2.45 The practice of regulatory impact assessment as just briefly described suggests that, in the main, it tends to follow what the academic literature and good practice guidance¹⁸ describe as the engineering and financial approach – in contrast to the behavioural approach to assessment. The two approaches can be summarised as follows:
- Engineering and financial analysis of costs are assumed to fall on the entities owning the facilities or responsible for the activities faced with the compliance requirements – analysis takes the form of gauging the severity of costs and burdens typically using accounting measures of profit and loss;
 - Behavioural assessment acknowledges that the owners of the affected facilities or activities can to some extent make adjustments to the regulation such as changing production rates or altering input mixes or changing prices to accommodate the regulation – and are likely to try to do so.
- 2.46 Behavioural assessment can adopt a partial equilibrium approach that seeks to track the effect of the regulation in a single market and in which interactions with other markets are ignored. A general equilibrium approach traces the effects on other markets and seeks to incorporate inter-sectoral linkages wherever possible. Partial equilibrium analysis is appropriate where the scope of the regulation in question is largely sector-specific and its effects unlikely to be large enough to substantially affect other sectors. Where there is significant leakage of effects into other sectors, it may be possible to extend the partial equilibrium approach to a cluster of sectors – as was done in the impact assessments in the USA with regard to the Pulp and Paper Cluster Rule authorised in 1998 which introduced regulations that were bound to interact with one another in their implementation.
- 2.47 There is a wider body of academic literature looking at tensions between regulations where, more often than not, the approach is to examine the effects (direct and indirect) of two or at the most three regulations using an ‘everything else equal’ assumption. Lave and Hendrickson¹⁹ and McMichael²⁰ explain how regulation in a specific area of policy could conflict with other regulatory objectives. To illustrate, a regulation to reduce pollution might increase the incentive to consume and produce smaller and less fuel-consuming cars but this is likely to be contradictory with the goal of improving drivers’ safety where heavier vehicles are to be preferred.
- 2.48 However, even though such potential contradictions may be observable and, indeed, should be acknowledged in RIAs, there is little in the literature that demonstrates how the

¹⁸ See, for example, US Environmental Protection Agency, Office of Air Quality Planning and Standards, Innovative Strategies and Economics Group; Economic Analysis Resource Document; April 1999 - <http://www.epa.gov/ttn/ecas/econdata/Rmanual2/5.1.html>

¹⁹ Lester B Lave: Controlling Contradictions Among Regulations: 1984

²⁰ CT Hendrickson and McMichael FC: Controlling Contradictions Among Regulations: Note: 1985

quantitative effects of such interactions on costs and benefits can be estimated. Lave suggested the use of the social utility function in which safety, emissions, price and other features might be considered and measured contextually. The challenge of this method conceptually and especially in practice would be to maximise the social utility function taking into account all these features.

Analytical methods - assessment across regulations

- 2.49 A good deal of the relevant literature looks at the issue of the cumulative cost of regulations, or, in some cases, of specific regulatory sectors. For instance, Hahn and Hird²¹ estimated the cost of US regulation through a compilation of diverse studies on the costs of regulation. Individual studies used different methodologies, so what Hahn and Hird did was simply to look at the bottom line for each study, take the costs, and compile a table where all costs were added.
- 2.50 Overall, this approach falls into studies on the overall macro costs of regulation (the general equilibrium approach) and studies focusing on a specific sector (partial equilibrium). Harvey J. James²² compiled 25 impact assessments by Occupational Safety and Health Administration (OSHA); essentially, he added up the weighted costs included in the 25 RIAs but did not look at any interaction between the 25 regulations.
- 2.51 In some cases, the approach draws on surveys but the conceptual substance of the analysis does not change. Crain and Johnson²³ used surveys but their focus was not on the interaction between different regulatory provisions but on the aggregation of regulatory burdens. In the USA, there have been improvements in the quality of surveys as shown by PACE conducted by Environmental Protection Act (EPA).
- 2.52 There have been some recent methodological discussions on the accuracy of cost estimates in both compilation studies and surveys. For example, James²⁴ argued that a reliable measure is 'mandated private expenditure' – an approach that was characterised in the previous subsection as an engineering and financial one. For example, if a rule implies that a firm has to build a new device to control emissions, the approach looks at the costs of labour, raw material, etc necessary to comply with the regulation. Indirect effects of regulation are not considered in this approach.

²¹ Hahn, R. W. and Hird, J.A.: 'The Costs and Benefits of Regulation: Review and Synthesis' *Yale Journal on Regulation*; 1991

²² Harvey S James: *Estimating OSHA Compliance Costs*: 1998

²³ Crain, WM and JM Johnson: *Compliance Costs of Federal Workplace Regulations*, 2001

²⁴ Harvey S James: *Implementing a regulatory budget: Estimating the mandated private expenditure of the Clean Air Act and Safe Drinking Water Act amendments*: 1998

- 2.53 In terms of the economics of assessment, the compilation and survey methods are closer to financial analysis of costs and sometimes benefits – this seems to be the case in the UK application of RIA. The distinction between financial and cost-benefit analysis should not be under-estimated – indirect effects are a key ingredient in cost-benefit analysis but are typically not taken into account in financial or even cost-effectiveness assessments.
- 2.54 However, both engineering and financial (non-behavioural) approaches and partial and general equilibrium (behavioural) approaches to regulatory impact assessment²⁵ have to acknowledge that there is a limit to the period over which the cumulative effects of regulations should be assessed. This is part and parcel of the behavioural methods of assessment where a judgment has to be made about the time period over which it might reasonably be expected that adjustments could be made to accommodate the regulatory impacts and a new steady state established. Thus, it is common practice to calculate the costs and benefits of a regulation over the period of time corresponding to the expected useful lifetime of any capital equipment purchased to comply with the regulation.
- 2.55 Similarly, when assessment is made of the cumulative effects of regulations, a judgement has to be made about the time period over which it is appropriate to do so – a period in which regulations have yet to become a kind of sunk cost – i.e. not yet absorbed sufficiently into businesses' culture and operations that the regulations are regarded as the norm. For example, it would seem appropriate to include minimum wage requirements in estimating the cumulative costs and benefits of UK labour market regulations but not anti-slavery legislation.
- 2.56 The draft 2005 report to the US Congress by the Office of Management and Budget (OMB)²⁶ took a 10 year look-back at major Federal regulations reviewed by the OMB to examine their quantified and monetised benefits and costs. In addition, it reviewed the cumulative costs of Federal regulations starting in 1981 – roughly a 20 year period. The report notes some concerns with these estimates based as they are on ex ante estimates with very little by way of ex post verification of the veracity of the estimates.
- 2.57 The assessment of the combination of **both** cumulative and interactive effects across regulations is particularly problematic. One can follow either the macro, general equilibrium approach or a more realistic micro approach. At the macro level, one would have to work with a general equilibrium model for the analysis of regulations with all the theoretical problems and practical difficulties that this would entail.

²⁵ See the previous sub-section and the distinction drawn by the US Environmental Protection Agency between non-behavioural and behavioural approaches to assessment.

²⁶ Office of Management and Budget; Draft 2005 Report to Congress on the Costs and Benefits of Federal Regulations; Washington DC

2.58 At the micro level, there are interesting results on specific regulatory instruments or sectors. Hazilla and Kopp²⁷ targeted the social cost of regulation (e.g. the total cost of direct and indirect negative regulatory effects) using a general equilibrium model. Market analysis supports this type of exercise. There are segments of economic theory or partial equilibrium models that tell us about how markets react to rules and their interaction. For example, we know about how the pulp industry in the USA reacts to environmental standards in terms of locational choices. So, at the sectoral level we can model some types of interaction by using our knowledge of how firms react to rules. But, this knowledge is incomplete and difficult to generalise.

2.59 By way of summary, we have populated the matrix suggested at Figure 2.3 to show where some methods might have particular relevance and application according to the international academic literature (see Figure 2.4).

Figure 2.4: Analytical methods for assessing cumulative and interactive impacts			
		Interaction between the costs and benefits of one regulation with others	
		Yes	No
Cumulative impacts – costs and benefits – across regulations	Yes	A <ul style="list-style-type: none"> • General equilibrium modelling • Cumulative impact of specific types of regulation like fees or standards 	B <ul style="list-style-type: none"> • Surveys of specific stakeholders and market segments • Adding up approach •
	No	C <ul style="list-style-type: none"> • Social utility functions • Comparative risk assessment • Partial and full cost-benefit analysis 	D

Summary

2.60 Our review persuaded us that there was room for improvement in the UK assessments of individual regulations and impacts across regulations as set out in Figure 2.5.

Figure 2.5: Potential areas for improvement in UK practice of regulatory impact assessment		
	Assessment of individual regulations	Assessment across regulations
Integration	<ul style="list-style-type: none"> • Placing RIA appraisals in an ongoing process of assessment that prompts monitoring, evaluation and feedback 	<ul style="list-style-type: none"> • Developing an understanding of the effects of a package of regulations on policy outputs and outcomes – in the economy as a whole or by specific sectors or groups of stakeholders
Conceptual clarity	<ul style="list-style-type: none"> • Incorporating a cascade of definitions in the Guidance that clearly distinguishes key concepts and the relationships between them 	<ul style="list-style-type: none"> • Distinguishing between the concepts of cumulative and interactive effects and the different contexts in which they should be used

²⁷ Hazilla, M and Kopp, RJ: Social Cost of Environmental Quality Regulations: A General Equilibrium Analysis: 1990

Figure 2.5: Potential areas for improvement in UK practice of regulatory impact assessment		
	Assessment of individual regulations	Assessment across regulations
Segmentation	<ul style="list-style-type: none"> Refining the existing segmentations in RIAs with regard to the definition of markets – and groups of stakeholders – where the effects of the regulation could be expected to be particularly severe to focus appraisal, monitoring and evaluation 	<ul style="list-style-type: none"> Adopting a categorisation for the development of the evidence base on regulatory impacts that can be used by RIA practitioners and policy makers – a categorisation based around policy themes and outcomes, markets and/or groups of stakeholders
Analytical methods	<ul style="list-style-type: none"> Developing and using more explicit logic chains to link baseline conditions to the regulatory objectives and to the target outputs/outcomes Guidance on the analytical tools for regulatory appraisal and evaluation, its use under different conditions and interpreting the results 	<ul style="list-style-type: none"> Exploring the potential of different analytical methods for the assessment of cumulative effects across regulations

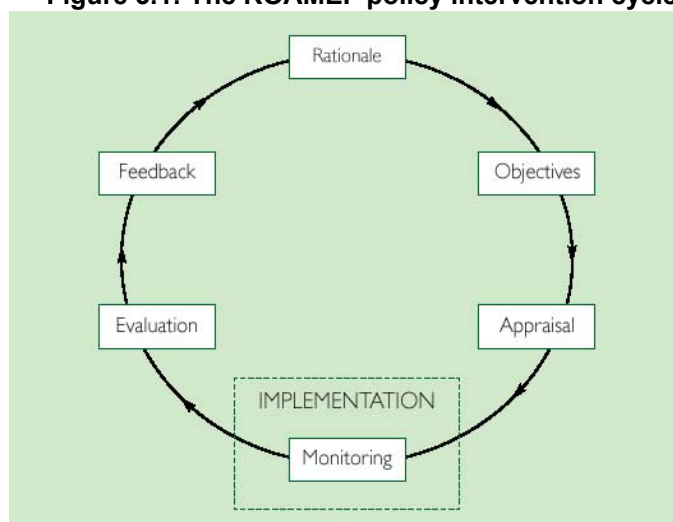
2.61 The areas for potential improvement identified in this section of our report are considered further and developed in subsequent sections – Section 3 being devoted to the improvements that might be possible in the assessment of individual regulations, Section 4 focusing on assessment across regulations and the final section setting out our conclusions and recommendations on initiatives that we think should be pursued (with a particular focus on those that should be implemented in the short term).

3 Improving the assessment of individual regulations

Integration of ex ante and ex post assessment

3.1 Assessment of an intervention such as introducing a new regulation involves a broad policy cycle that some departments and agencies formalise in the acronym ROAMEF (Rationale, Objectives, Appraisal, Monitoring, Evaluation and Feedback). This is depicted in the Treasury's Green Book as in Figure 3.1.

Figure 3.1: The ROAMEF policy intervention cycle.



3.2 The distinctive properties and disciplines that would follow from the adoption of the ROAMEF approach in regulatory impact assessment are broadly as follows.

3.3 First, following a depiction of the market failures or distributional issues that might provide a rationale for intervention, the approach would require consideration of what intervention options (regulatory or otherwise) might be appropriate (including revisions, amendments or withdrawal of existing interventions). This would have to involve the identification and assessment of regulations already present in or affecting the relevant market(s).

3.4 Second, the translation from the rationale for intervention into regulatory aims and objectives and then into outputs and outcomes would require the specification of logic chains that would highlight potential dynamic as well as static effects – i.e. longer term indirect and interactive consequences - even where these can't be fully estimated or modelled.

3.5 Third, the integrated and cyclical nature of the framework will prompt consideration of monitoring and evaluation requirements to promote a virtuous circle in which learning about regulatory effects informs both the implementation of the regulation in question and later regulatory impact assessments.

3.6 Finally, the wider objective of a more integrated ROAMEF approach would be to influence or bring about better regulation through a combination of tools of which RIA would be one. In

this approach, RIA will either need to be broadened or supplemented in order to conduct a broad review of regulations in relevant market(s), to test whether different regulatory techniques can be creatively combined, or provide alternatives to traditional regulation. Effective integration will help build the capacity to reveal what works with regard to evidence of impact through a close linkage between ex-ante and ex-post analyses of regulation.

- 3.7 The concept of a regulatory policy cycle, like ROAMEF, is important for two reasons. Firstly, it draws attention to the linkages between ex-post policy evaluation and ex-ante regulatory impact assessment. Secondly, it acknowledges that good regulation cannot be achieved when regulatory tools and techniques are applied only at specific points in time. Market conditions may change, stakeholders respond differently to regulatory options, and technology may make regulatory policies obsolete in a short time-span. For these reasons, it is important to revisit the rationale for regulation regularly and creatively, at least in some markets, and to combine different methods and their mix at different points in time²⁸. A combination of methods should be used throughout the regulatory cycle to enable the regulators to keep policy dynamics under observation and to intervene with responsive regulation in a timely fashion.
- 3.8 Our review of the assessments of the sampled environmental and employment regulations demonstrated²⁹ that they incorporated some of the elements that would be necessary for a more integrated approach but did not generally weave them together effectively. Moreover, some aspects of the integrated approach were either missing or under-played, most notably with regard to the monitoring and evaluation of regulatory impacts.
- 3.9 The adoption of a more integrated approach to assessment will not simply be a matter of refining the concepts and tools for assessment. It will require changes in the policy and assessment framework along the following lines:
- Building the ROAMEF cycle approach explicitly into the Guidance, thus increasing its visibility and use among economists in regulatory bodies and central government departments;
 - Requiring an explicit statement in regulatory appraisals of the rationale, logic chain and outcomes under-pinning a proposed regulation – thus, setting up the prospect for and prompting monitoring and evaluation of the outcomes (especially where there was uncertainty about them at the appraisal stage);
 - Developing specific guidance to integrate ex-ante and ex-post analysis;

²⁸ Baldwin, R. (2005) 'Is better regulation smarter regulation?' Forthcoming in Public Law.

²⁹ See detailed analysis in Annex D and E

- Going beyond the RIA as a tool to assess impact; recommending and stipulating broad regulatory reviews that enable the balance of better regulation policies to shift from ex-ante to ex-post
- Reviewing different regulatory techniques and their impacts in different markets and in systematic ways.

Conceptual clarity

- 3.10 Our review revealed a need for greater clarity in the understanding and use of some key concepts in the assessment of individual regulations. By way of illustration of the improvements we think should be considered, we present in Figure 3.2 definitions of the concepts most relevant to the identification and estimation of regulatory costs. We would expect that, if the need we have identified for systematic clarification of the concepts was accepted, then the exercise would have to be extended to cover benefits as well as costs.
- 3.11 The definitions in Figure 3.2 use existing UK and international sources where possible but we became aware in the process of defining the concepts that the extent to which we could rely on existing sources was surprisingly limited. Therefore, the definitions are only suggestions at this stage and will need to be subject to inter-departmental consultation and agreement to ensure they are defined and used consistently and robustly.

Figure 3.2: Illustrative definitions of key cost concepts in regulatory impact assessment

- **Regulatory burden** – the total direct and indirect costs of a regulation – it is equal to policy costs plus any indirect costs including unintended effects.
- **Policy costs** – the total direct costs attributable to the policy intervention through the proposed regulation – it includes direct costs of compliance related to the regulation.
- **Implementation costs** – direct costs attributable to the implementation of the regulation including costs associated with administrative, familiarisation and compliance with enforcement and sanctions – they are sometimes known as the red tape burden of regulation.
- **Compliance costs** – the direct costs of complying with the regulation - they can be recurring or fixed and are a component of policy costs
- **Administrative costs** – the costs associated with the paperwork burdens on the administrative structures of business as a result of regulation - they are a component of implementation costs
- **Red tape burden** – see implementation costs
- **Financial analysis** – assessment based on the financial flows associated with a regulation – usually confined to its implementation costs – financial analysis does not take account of non-monetary benefits, indirect effects and the impact of regulation on society as a whole.
- **Direct costs** – costs that occur at the same time and place and include the effects on sectors and markets immediately addressed by the regulation.
- **Indirect costs** – those costs that are later in time or farther removed in distance but are still reasonably foreseeable - indirect costs can include second round effects on consumers, environment and other aspects of society as well as unforeseen or unintended effects
- **Interactive costs** – the effects on costs that arise from the interaction of a proposed regulation with prevailing regulations - for example, a proposed regulation to reduce car-related pollution may interact with an existing regulation to promote car safety in ways that may make its additional costs higher than if the interactive effects had been ignored (because the combined incentive on producers would be to build cars that were both smaller and sturdier and more expensive than one or the other).

Figure 3.2: Illustrative definitions of key cost concepts in regulatory impact assessment

- **Discounting** – a method used to compare financial flows that occur in different time periods - it converts future costs or benefits to present values using a discount rate - it can be used when estimating the indirect effects of regulation that are later in time or in the future.
- **Optimism bias** - the demonstrated systematic tendency for appraisers to be over-optimistic about key intervention parameters including capital costs and operating costs – more usually considered in investment projects but likely to be of some relevance with regard to the implementation of and compliance with regulations

Enhanced segmentation

- 3.12 The general tendency for RIAs in practice to fall short of their theoretical aspirations in determining and estimating regulatory impacts may simply be because they have to be done in a limited time and with constrained resources and information. The need for focus in the RIAs is acknowledged in the UK by the requirement to emphasise consideration of the impact on small firms and taking into account the likelihood of adverse effects on competition.
- 3.13 The existing segmentation analyses used by RIAs (business sectors affected, impact on small firms, competition assessment and some ad-hoc employee and customer surveys) were reviewed to test whether there was potential for enhanced segmentation that might assist the process of focus in regulatory assessments and facilitate assessment of interactive effects.
- 3.14 Our review led us to conclude that the assessments might have been improved and more focused if there had been guidance and evidence based benchmarks specific to each policy field. Thus, it seemed to us that the way that employment regulations work through the market and on stakeholders differs from the mechanisms by which environmental regulations exercise their effect. This might seem like stating the obvious – after all, the first works through the labour market and the second typically through the production function of businesses. However, it was not apparent to us that attempts were being made to build up a body of evidence about the various stages in the relevant logic chain(s) and, hence, on the extent, nature and impacts of regulations in each policy field.
- 3.15 Similarly, we were not made aware of any systematic body of evidence being developed on regulatory impacts by sector of industry or markets. Indeed, as we have already noted, there was little or no guidance available to those carrying out RIAs on how to define markets or sectors and how to assess market or sector specific regulatory impacts. In particular, one of the issues that would be a prime focus for competition policy analysis – the implications for entry barriers and threshold effects - was rarely addressed.
- 3.16 We have also observed that there was little assessment of geographical and distribution effects in the assessments we reviewed. However, it is fair to say that we did not come across many regulations where the introduction of the spatial dimension would necessarily have

added significant value to the overall assessment. Nevertheless, we suggest that it would be appropriate to include in the Guidance a requirement to consider spatial variations in the likely impact of regulations, especially where these might affect rural and/or deprived areas disproportionately.

3.17 Therefore, the following segmentation possibilities should be flagged in the RIA Guidance and commitments made to build a body of evidence on regulatory impacts and how they might be assessed differently in each segment:

- **Policy domains** – there may be some distinctive logic chains that are associated with regulations in different policy domains (e.g. health and safety as distinct from environmental as distinct from employment regulations) by virtue of where and how they work through firms and other stakeholders in their market context (e.g. an environmental regulation might be expected to operate very differently from an employment regulation in, say, a high capital and energy intensive business such as petro-chemicals as compared with a highly labour intensive sector such as clothing manufacture);
- **Sectoral impacts** – building on existing and future evidence about the particular characteristics of sectors and markets that might make adverse or beneficial effects of regulation fall on them disproportionately; some of these characteristics are already known and could be mapped across quite detailed sectors characteristics such as the importance of high business birth rates and the presence of small firms in the sector, the degree of market power in the sector and the factor intensity (e.g. the high energy intensity of the process sectors);
- **Spatial impacts** - where there might be concern on distributional and spatial development grounds about the incidence of regulatory impacts (such as peripheral rural areas or deprived neighbourhoods).

Analytical methods

3.18 Our review of the sampled regulatory assessments and the academic literature also involved consideration of the analytical methods used to see to what extent enhanced or other methods might be appropriate for future application in the context of ex ante appraisal and ex post evaluation.

Methods reviewed from the sampled regulatory assessments

3.19 Our review considered the analytical methods and tools that were used in the sampled assessments, the extent to which they might have been enhanced, their fitness for purpose as

ex-ante and ex-post methods and their advantages and limitations. Three points should be noted before considering the summary provided of our findings in Figure 3.3:

- The RIA Guidance sets out a wide range of analytical methods and tools but does not advise on when and how they should be used;
- It also does not provide an algorithm to explain what should happen once the application of a particular method has generated its findings (e.g. whether further consultations might be necessary); and
- Our review of the tools and methods was particularly focused on their fitness for purpose in addressing the particular issue we were asked to examine of interactive effects.

3.20 Figure 3.3 suggests, the existing methods within the toolkit for ex-ante assessment are capable of enhancement so that they can be used for assessing interactive effects. But some aspects of current ex-ante methods, especially their use of segmentation, even if robustly applied might not have provided robust ex ante evidence and, as a consequence, it is likely that full impact assessment would only be possible ex post.

3.21 Indirect effects may be more easily quantified at the ex-post stage and, if found to be significant, these segmentation possibilities could be followed up with more focused surveys/consultations in order to assess the impact of the regulation. Effects on consumers or other suppliers in the production chain can be more effectively measured through surveys during an ex-post assessment.

3.22 Unintended effects are also, on this evidence, difficult to predict and hence cannot always be captured during an ex-ante assessment using some of the analytical methods in RIAs. It may be possible to measure some of the unintended consequences of regulation(s) once they have been implemented by using practitioner, business or consumer surveys to ask about all the effects of the regulation, and test whether these were intended or laid out prior to implementation when setting the initial objectives of the regulation(s).

Methods reviewed from the general literature

3.23 In Figure 2.5 we identified a number of possible analytical methods that could in principle be used to assess the interactive impacts of regulations and to improve the quality of RIAs carried out on specific regulations especially when they are set in a more integrated regulatory framework.

3.24 Each of these is considered briefly in Figure 3.4 where each is assessed in terms of its applicability and fitness for purpose in ex-ante and ex-post assessments of regulatory impact. We also highlight their advantages and limitations, the costs that use of the tool can impose

on businesses and the public sector, the administrative feasibility of its use, the monitoring and feedback it permits and the contribution it can make to segmentation analysis.

3.25 Our assessment demonstrated that:

- Some tools can be used for both ex-ante as well as ex-post assessments
- Each of the available analytical tools does not allow for comprehensive ex ante appraisal of all the features of regulatory impact when used in isolation – so, ex ante assessment must rely on use of more than one tool;
- Even when used in combination, the available tools are unlikely to provide for a robust ex ante appraisal of impact – so, the latter will need to be complemented by ex post evaluation of impact using some tools that are more relevant for that purpose.

Methods for ex-ante assessment of regulatory impact

3.26 The reviews in Figures 3.4 and 3.5 suggests that there are readily available and extensively used methods for ex-ante assessment of regulatory impact, the most common being surveys and consultations and cost-benefit analyses.

Business surveys, consultations and focus groups

3.27 Business surveys are a flexible method used both in ex ante assessment and ex post evaluation of regulation. Moreover, depending on the quality of design, business surveys can provide useful insights for segmentation analysis.

3.28 Business survey data are empirical in the sense that they provide the ‘best estimates’ that surveyed companies provide to the public administration of the amounts of money that they are expected to expend to comply with regulation. The accuracy of survey results depends on the intrinsic quality of the questionnaire and on the presence of mechanisms that validate the information provided by businesses.

3.29 However, ex-ante survey methods can have disadvantages too. They often rely on subjective data stemming from a typical regulated party: the business. Businesses tend to over-estimate regulatory costs and, ex ante, there will be limited mechanism to validate their claims. Hence ‘regulatory bias’ can affect the outcomes of surveys, especially when this bias has the potential to be large due to predicted outcomes being assessed rather than observed outcomes. In the absence of ex-post assessment, predicted outcomes cannot be validated against observed outcomes to allow for correction in the bias.

Figure 3.3: Analytical methods used in the sampled regulatory assessments

(A) Tools/methods currently used in the individuals RIAs		(B) Potential for enhancement of methods to assess interactive impacts	Ex-ante and/or ex-post tool/method	Advantages and limitations of (B)
Consultations	<p>Series of consultations as part of partial RIAs for both ELV and WEEE</p> <p>Extensive consultation undertaken as part of RIAs for both maternity regulations and the part time regulations</p>	<p>The consultative process can be extended to include evidence on potential interactive impacts with other regulations</p>	<p>Ex-ante: consultations are usually conducted at the RIA stage</p> <p>Ex-post: focus group consultations can be a cost-effective way of monitoring regulatory impact against objectives</p>	<p>RIA analysts can ensure that consultation methods are harmonised with any ex-post method of monitoring and evaluating the impact of the directive</p> <p>RIA analysts can use consultations as an intermediate method of measuring regulatory impact ex-post when large scale surveys are costly</p>
Surveys	<p>Ex-post Work Life Balance Surveys of both employers and employees</p> <p>Ex-ante British Market Research Bureau (BMRB) survey investigating differences in terms and conditions between part-time and comparable full time employees in the same workplace, looking at pay and non-wage benefits</p>	<p>Targeted ex-post questioning in surveys to identify or 'unpack' the effects of individual regulations</p> <p>Develop the scope of the BMRB research to focus on identified segments (see below) and provide quantitative sample evidence.</p>	<p>Essentially ex-post but ex-ante – segmentation analysis and consultations should provide focus for monitoring and evaluation processes</p> <p>Focused BMRB Survey directed by segmentation analysis.</p>	<p>Employer survey outcomes can be analysed alongside employee survey outcomes to understand where and how incidence of regulation falls</p> <p>BMRB provide a valuable tool for other related regulations, especially if it were able to provide an evidence base for cumulative and interactive impacts</p>
Small Firm Impact Test	<p>Method within segmentation analysis to assess regulatory impact by firm size</p> <p>Estimates of costs by firm size were undertaken for maternity RIAs</p>	<p>SFIT can be extended to include impact on start ups and modified for medium size firms who could face potential threshold effects.</p> <p>SFIT is often conducted using consultations- these can be tailored accordingly to assess interactive impacts and threshold effects</p>	<p>Ex-ante: SFIT can attempt to categorise costs and benefits of the regulation by firm size and later enable the use of methods such as the Adding up Approach to estimate cumulative burden on small business</p> <p>Ex-post: business surveys can incorporate proportionality of impact by firm size</p>	<p>Difficulties associated with the firm's understanding of the concepts of interactive Impacts and where these potentially may arise – could be addressed as departmental expertise builds up.</p> <p>Categorisation of costs and benefits by firm size may be difficult at ex-ante stage and will need to be informed by feedback from ex-post methods</p>

Figure 3.3: Analytical methods used in the sampled regulatory assessments

Figure 3.3: Analytical methods used in the sampled regulatory assessments			
(A) Tools/methods currently used in the individuals RIAs	(B) Potential for enhancement of methods to assess interactive impacts	Ex-ante and/or ex-post tool/method	Advantages and limitations of (B)
<p>Competition Assessment</p> <p>The test addresses the competitive nature of the market, threshold effects and barriers to entry.</p> <p>Implementation of the ELV and WEEE are not expected to have any significant impact on competition on the proposed business sectors.</p> <p>Segmentation analysis is undertaken for all employment regulations although competition analysis is limited</p>	<p>Where threshold effects on firm size are found to be potentially significant, these could be followed up through ex-ante consultation questions posed through a business size segmentation (as suggested above).</p> <p>RIA can define a wider market for ELV once interactive impacts are taken into account and assess competition accordingly</p>	<p>Ex-ante: follow up “yes” potential effects through consultation process and the information could act as a set of triggers for the types of monitoring required and hence further investigation at the ex-post stage.</p> <p>Ex-post: follow up “yes” potential effects through a survey process or market studies</p>	<p>This process will lead to a more robust testing of competition effects.</p> <p>Further analysis of “yes” answers may lead to a more complicated RIA process. However, if questions are incorporated into the consultation exercises, they could merely be a small addition to this tool.</p>
<p>Analysis of Costs and Benefits</p> <p>For ELV: Identified areas where benefits could occur due to the directive by each statutory instrument; identifies costs under each statutory instrument</p> <p>For WEEE: Estimated implementation costs by different scenarios; calculated impact of WEEE on current UK situation against various environmental outputs</p> <p>For SMP Improvements: Used straight forward cost assumptions to measure the costs and benefits that would be incurred by women, firms (implementation and compliance) ,and the exchequer</p> <p>For 2002 maternity simplifications: Considered the interactive policy costs associated with the basket of maternity regulations</p> <p>For part time improvements: Assessed costs and benefits using evidence from the BMRB survey and LFS data</p> <p>For pregnant workers/workers returning to work having recently given birth: Provided robust and comprehensive cost assessment, taking into account interaction with existing regulations and calculating an NPV over 10 years</p>	<p>Economic rather than financial analysis of costs and benefits including indirect effects can be measured</p> <p>Integration between segmentation analysis and cost benefit analysis such as disproportionate impact can be quantified where possible - could be undertaken in sectors, types of firms or spatial areas where cumulative and/or interactive impacts could be disproportionate</p>	<p>Ex ante – identification of interactions at consultation phase may be introduced in analysis of costs</p> <p>Monitoring – monitoring surveys of producers can collect data on additional administrative and implementation costs due to directive</p>	<p>Benefits may still be difficult to quantify</p> <p>Monitoring and other data collection exercises may be costly to implement for both regulators and business</p> <p>Ex-post – estimation of costs and benefits may become easier ex post</p>

Figure 3.4: Review and assessment of analytical methods from the literature review

Assessment of ex ante methods							
Methods	Interaction between regulations	Segmentation Analysis	Monitoring and feedback mechanisms	Advantages	Limitations	Implementation Costs on regulated parties	Implementation Costs on public sector*
Business Surveys/Consultations	NO	YES, if designed appropriately	Ex-ante surveys/consultative audience can be set in a way such that they can be contacted again at monitoring stage to gain validation of ex-ante evidence and any capture any unintended effects	- Flexible tool in terms of design and application - It may provide the best available empirical data on private regulatory costs especially in those sectors where cost analyses are missing	Regulators' bias –often the only source of empirical data on regulatory impact (lack of validation of survey results) - Data not always connected to other estimations of costs and benefits hence hard to validate against sources with alternative methods	Medium-High, depending on the degree of details and accuracy of data requested from business	Medium-High The costs of designing the questionnaire and maintaining the dataset of survey results Difficulty in getting financial data from firms
Comparative Risk Analysis	YES	NO	This is essentially an ex-ante tool but it also helps in mapping regulation with conflicting goals which can be revisited at various stages of the framework	It helps in evidencing risk-risk tradeoffs in the ex-ante analysis and supports mapping the contradictions between regulations	It may be conceptually difficult to adopt and practically difficult to implement	None-Low	Medium- Training of regulatory or policy analysts
Partial CBA	NO	YES, but limited to the market where the regulatory proposal produces effects	NO	Parsimony and simplicity	Many relevant indirect effects are not considered; based on a limited range of stakeholders	None-Low	Low
Full CBA	YES, if integrated with comparative risk analysis	YES, and not only in the market where the regulatory proposal produces effects	NO	- Comprehensiveness - related to the policy objective to maximize the net welfare of citizens - Time dimension of the analysis (first and second round effects)	- Complexity - Time consuming and expensive hence suitable for major regulatory changes	Low	Medium-High Training of policy analysts plus costs in funding specific parts of the economic analysis

Figure 3.4: Review and assessment of analytical methods from the literature review

Assessment of ex post methods							
Methods	Interaction between regulations	Segmentation Analysis	Monitoring and feedback mechanisms	Advantages	Limitations	Implementation Costs on regulated parties	Implementation Costs on public sector*
Business Surveys/Consultations	NO	YES, if survey is designed appropriately	- Ex-post surveys can improve the understanding of the regulated businesses' bias in replying to the questionnaire - Small scale monitoring surveys can improve database on costs and benefits to aid ex-post analysis	- Flexible tool in design and application - It may provide the best empirical data on private regulatory costs – especially in those sectors where cost analyses are missing - Size and scale can be altered - small focus group consultations immediately after implementation, followed by longer term large scale surveys	- Regulators' bias if there is no way of validating survey results - Data not always connected to other estimations of costs and benefits hence hard to validate against sources with alternative methods	Medium-High depending on the degree of details and accuracy of data requested to business	Medium-High The costs of designing the questionnaire and maintaining the dataset of survey results Difficulty in getting financial data from firms
Partial CBA*	NO	YES, but limited to the market where the regulatory proposal produces effects	NO	Parsimony and simplicity	Many relevant indirect effects are not considered; based on a limited range of stakeholders	None-Low	Low
Full CBA*	YES, if integrated with comparative risk analysis	YES, and not only in the market where the regulatory proposal produces effects	NO	- Comprehensiveness - related to the policy objective to maximize the net welfare of citizens - Time dimension of the analysis (first and second round effects)	- Complexity - Time consuming and expensive hence suitable for major regulatory changes	Low	Medium-High Training of policy analysts plus costs in funding specific parts of the economic analysis

* Ex-post when based on economic analysis of different simplification option

- 3.30 Secondly, experience shows that often survey data are not compared with and connected to other research or sources that use different methodologies. Especially with regard to those regulations that are in the process of being transposed from the EC directives, it might be worthwhile to study any ex-post evidence from the EU that will inform the design and outcomes of the UK consultative exercise.
- 3.31 Ex-ante surveys can be supplemented by more in-depth consultations and/or focus groups but these will also be limited in their ability to capture indirect effects. For example, firms may not report any price increases for consumers or supplier who are lower down in the value chain as a direct consequence of their increasing costs due to regulation.
- 3.32 For the purposes of conducting a robust ex-ante assessment of regulatory impact using this analytical method it should have the following features:
- It should be flexible enough to include a combination of survey methodologies such as telephone, face-to-face or postal interviews
 - It should be flexible with regard to the target audience such that segmentation analysis can be conducted at the outset; firms of varying sizes can be consulted about their predicted costs and benefits as a result of regulations
 - It should provide the mechanism for data gathering to be cyclical; evidence from stakeholders or firms can be validated at the ex-post stage when similar survey methodologies are implemented and data can be improved upon
 - Findings should be validated against similar research or studies using different sources and methodologies to ensure robustness and consistency
 - Cost structures of firms can be investigated when firms of varying sizes are consulted early; this would enable a robust estimation of cumulative burden taking specific costs of importance such as compliance or administrative costs;
 - It should allow for questioning based on lessons learnt from previous ex-post assessments
- 3.33 These features will allow for integration at the level of analytical methods to enable validation of estimates via multiple sources and different methodologies. Some of the recommended features would also allow for cost-benefit analysis to start early and to be linked effectively with the consultative process. Data on cost estimates and predicted tangible benefits can be used to set up a suitable baseline for future regulatory reviews, especially when evaluating the cumulative impact for regulation.

- 3.34 Engaging firms early in impact assessment is critical³⁰ as several studies reveal. This becomes especially important when cumulative impact of a basket of regulations would need to be assessed or interactions between regulations need to be identified. Hence in order to estimate cumulative costs and benefits effectively, it may be useful to identify data needs early using the consultative process.
- 3.35 Integration at the level of analytical methods would enable integration between the different elements of the integrated regulatory management approach when ex-ante methods have mechanisms in place to allow for lessons to be learnt from observed outcomes.

Comparative risk assessment

- 3.36 Graham and Wiener³¹ developed a framework to analyse the risk trade-offs that can be associated with regulations and their outcomes. They point out that regulations introduced to reduce one kind of risk may act to increase risk from other directions. Removing carcinogenic chlorine compounds from our water supply may leave us vulnerable to microbial diseases. Farmers who are regulated from use of DDT as a pesticide may switch to less persistent but more immediately toxic replacements.
- 3.37 Graham and Wiener suggest a methodology by which countervailing risks (those risks introduced when action is taken to reduce "target risks") may be classified and evaluated. Thus:
- *Risk offset* takes place when the countervailing risk is of the same character as the target risk: perhaps one carcinogenic pesticide is replaced by another;
 - *Risk substitution* occurs when the countervailing risk is of a different nature from the target risk: auto manufacturers forced to build more fuel- efficient (and less polluting) vehicles made them smaller and thereby less safe;
 - *Risk transfer* eliminates the risk for one population but transfers it to another; and
 - *Risk transformation* combines substitution and transfer - creating new risks for a previously unaffected population.
- 3.38 Awareness of interactions among different types of risk and consideration of decision-maker utilities make it possible (at least theoretically) to model risk tradeoffs along a risk protection frontier. However, countervailing risks are often neglected in the decision-making process for a number of reasons:

³⁰ The FSA Methodology for Cost Benefit Analysis, NERA Economic Consulting, November 2004.

³¹ Graham, J. D. and Wiener, J. B, Risk versus Risk Tradeoffs in protecting health and the environment, Cambridge, Massachusetts, Harvard University Press, 1997

- Some affected parties are excluded from the process in favour of more organized interests;
- Problem-solving methods may not be sophisticated enough to implement the comprehensive approach of risk trade-off analysis;
- Decision-makers tend to deal with the most obvious symptoms and to break down problems into manageable components that makes the big picture harder to see;
- They may also ignore compensating behaviour – e.g. health and safety regulation may require the use of protective equipment but might lead to less safe behaviour, resulting in lower reduction in accidents than expected.

3.39 The difficulties involved in either anticipating countervailing risks or in coming to a view of the risk adjusted impact of a regulation. However, Graham and Wiener emphasise the need for decision-makers to take a broader and more coordinated view across regulations, for better communication between specialists and for the necessary knowledge of the specialist to be supplemented with the wider point of view of the general practitioner.

Ex-ante Cost Benefit Analysis

3.40 Economic analysis of regulation can range from a simple administrative burdens analysis to comprehensive cost and benefit analysis (CBA) that attempts to evaluate the monetary and non-monetary costs and benefits of different regulatory options or alternatives to regulation. The decision whether to use simplified or sophisticated versions of CBA depends on the importance of the regulatory proposal in question.

3.41 Limited proposals affecting a small number of firms in specific sectors in relatively closed markets can be assessed via simple methods. Large regulatory proposals affecting a wide range of stakeholder in open markets with impacts distributed over time and complex trade-offs across sectors, goals, and generations are more appropriately assessed using large-scale comprehensive CBA.

3.42 The choice of one type or other (of CBA) is also linked to the criteria for impact assessment chosen by the government. If the goal of better regulation is to reduce the compliance costs of firms, then CBA can be usefully stripped down to cost-effectiveness analysis³². If better regulation programmes pursue the goal of delivering net benefits to the society, then full CBA is more appropriate.

3.43 Partial cost benefit analysis accounts only for direct economic effects (benefits and costs). The latter includes costs and benefits on the regulated parties and direct (economic)

³² CEA is defined by the Treasury Green Book as a method that compares the costs of alternative ways of producing the same or similar outputs

beneficiaries of a regulatory proposal. The calculation of direct benefits and costs is likely to be sufficient under conditions where the regulatory economic effects that are passed on to producers and consumers in other markets are assumed not to change.

- 3.44 An integral CBA takes into account all the effects of regulation including the indirect economic effects that might be passed on to producers and consumers in other markets and ‘external effects’ that are direct and indirect effects external to the market(s) where the regulation is targeted.
- 3.45 However, even an integral CBA rarely includes the interaction between major regulations: it is almost invariably an analysis of alternative options to tackle one regulatory issue instead of being an analysis of how these alternative options interact with existing regulations. Evidence suggests that inputting comparative risk analysis (see Figure 3.5 for a summary) can allow for the measurement of interactions. Of course the time dimension within a CBA can enable costs or benefits from future or anticipated regulations to be discounted and included in the calculations.
- 3.46 An ex-ante CBA should have the following features, especially to enable the measurement of the interactive impacts of a regulation. It should:
- Be conducted fairly early in the process - most final RIAs are often preceded by partial RIAs that involve CBA;
 - Be linked with any ex-ante consultative process or other sources of regulatory assessment;
 - Incorporate segmentation analysis - a full CBA should allow for cost variations due to firm size or sector;
 - Discount values for time preference – this is especially important when taking into account interacting future regulations and indirect lagged effects;
 - Provide transparent summary of key assumptions and estimates that can be categorised and stored at the ex-ante stage to be used in other RIAs and later in evaluation stages.
- 3.47 Estimating benefits, especially at the ex-ante stage where outcomes cannot be observed, tends to be difficult and is often left out of economic analysis. However, there is always scope to quantify benefits at a general level. For example, previous ex-post assessments of benefits using surveys (work-life balance (WLB) surveys) can be incorporated and quantified in CBA where possible. Alternatively, it might be possible to conduct willingness-to-pay surveys on regulations that may be relevant to several future CBA exercises and produce a range of

estimates. The WBL surveys have the capacity to do this at present but have not yet been used to attempt quantifying the benefits from the employer and employee perspective.

Methods for ex-post assessment of regulatory impact

- 3.48 Ex-post assessment of regulatory impact is carried out much less often than ex-ante assessment through RIAs³³. This is partly because there is no set methodology for conducting a robust evaluation of regulations, barring the more generic guidelines in the Treasury Green Book for all interventions. Additionally, there are methodological difficulties in untangling the impact of regulation from other factors in the market.
- 3.49 Nevertheless, ex-post analysis of costs and benefits of regulation is critical in an integrated approach to regulatory assessment, including the acknowledgement of a logic chain linking objectives to processes, costs and eventually outcomes. The analysis has to add value; it should not necessarily focus on testing the accuracy of predicted outcomes but more in identifying the lessons learnt and fed back to encourage better regulation policies.
- 3.50 When reviewing the ex-post methods that are currently used in the international regulatory environment and some ad-hoc examples within the UK, we found that there is no single comprehensive method that we can recommend for evaluating the impact of regulation. Instead, a combination of methods that serve specific goals of ex-post assessment can be used either in conjunction with each other or as stand alone projects.

Ex-post surveys and case studies

- 3.51 The two ex-ante methods discussed earlier – business surveys/consultations/focus groups and cost-benefit analyses are suitable for ex-post assessment too. In practice, RIAs use consultations of a small scale with some ad-hoc independent research or surveys and these have occasionally been followed up after the regulations have been implemented. But, the two processes are not always linked through common objectives – i.e. measuring objectives against outcomes and comparing predicted and observable outcomes or impacts. However, there is no reason why the existing consultation framework could not be extended to ex-post consultations or focus groups and case studies (which can provide a fertile source of information about dynamic effects – even if providing findings that are difficult to generalise) when large scale surveys are resource and time intensive. Ex-post surveys or consultations can also play a role in correcting the regulator’s bias by validating the responses accordingly.
- 3.52 Additionally, ex-post surveys have the capacity to assess indirect or second round effects on consumers although it is not always easy for consumers to identify the specific impact of

³³ As noted in Section 2, the OMB draft 2005 report to the US Congress made the same comment about all the main Federal regulations introduced since 1981.

regulations or the change brought about by individual regulations. The Work Life Balance surveys for consumers can be tailored accordingly to test for the cumulative impact, especially benefits of the regulations that come under the WLB agenda.

Ex post CBA

- 3.53 Ex-post CBA as an analytical method is not particularly different from ex-ante except that it tends to be less constrained because there is more information about costs and benefits as well as observable evidence on market impact and firm's behaviour. On the other hand, constructing a counterfactual (how the market might have behaved in the absence of regulation) is problematic. One can get around this problem if a suitable baseline has been constructed at an ex-ante stage and uses information from consultations to estimate market conditions in the absence of a regulation. This reiterates our earlier point about integrating ex-ante and ex-post methods.

Conclusions

- 3.54 The findings reported in Section 2 – i.e. that there was room for improvement in the assessment of individual regulations – were supplemented and reinforced in this section by our review of the potential for better integration of ex ante with ex post assessments, clarification of key assessment concepts, enhanced segmentation analysis and wider use of the analytical tools available (both ex ante and ex post). However, the strongest conclusions to emerge from both sections were the need to:
- complement ex ante appraisal of regulations with ex post evaluation;
 - develop an evidence base from the monitoring and evaluation of regulations; and
 - organise such an evidence base around market and other segmentations that would inform future policy deliberations on and assessments of regulatory proposals.

4 Improving assessment across regulations

Introduction

- 4.1 The assessment of the desirability of a proposed regulation requires consideration of the costs and benefits associated with its implementation – i.e. the incremental or marginal costs and benefits as compared with the situation that would have prevailed without it. On the other hand, assessment of impacts across regulations will be needed if another policy question is to be addressed – namely, the extent and nature of the effects on the economy as a whole and for particular markets and/or groups of stakeholders from the accumulation of regulations over time. This question relates to the average or total costs and benefits of regulation rather than the marginal effects from the addition of a single regulation.
- 4.2 Assessment across regulations must, in our view, require:
- integration of ex post evaluation with other sources of evidence such as the information gathered in support of ex ante appraisals, information from the monitoring of the impact of regulations, reviews of secondary data sources and academic studies on regulations and the market behaviour and performance that they may have influenced;
 - clarity and consistency with respect to the vocabulary of assessment (e.g. as already discussed in regard to the definitions of regulatory costs of different types) and especially in relation to the particular concepts that may need to be considered when assessing cumulative effects over time (notably, the process of adjustment by which firms, for example, adapt to their regulatory environment);
 - some degree of segmentation analysis if cumulative regulatory effects are to be considered by policy area and/or on particular markets, groups of stakeholders and/or spatial areas (such as peripheral rural areas or disadvantaged communities); and
 - analytical methods that fit the purpose of cumulative impact assessment.
- 4.3 In other words, many of the aspects that are relevant to improved assessment of individual regulations (as considered in the previous section) will, in our view, have their analogue in the assessment across regulations – the integration of ex post and ex ante assessments, the clarification of key concepts and the use of segmentation analysis. It would, in our view, make sense for any improvements in the process of ex ante and ex post assessment of an individual regulation to be harmonised and integrated with any improved methods for assessment across regulations.

- 4.4 However, there are some aspects that are particular to the assessment of cumulative regulatory effects – mainly to do with the appropriate analytical methods for this purpose – and these provide the focus of this section (which draws largely on international experience and is summarised in Figure 4.1 at the end of the section).

Analytical methods for assessment across regulations

Business surveys and consultations

- 4.5 A very good example of ex-post surveys that aim to measure cumulative impact is the PACE survey³⁴ administered in the USA by the Bureau of the Census. The survey collects data on pollution abatement and prevention capital expenditures and operating costs for air, water, solid waste, and multimedia. The survey also collects data on disposal, recycling, site cleanup, habitat protection, environmental monitoring, and testing and administrative costs as well as other payments, such as permits, fees, fines, penalties, and tradable permits bought or sold³⁵. According to Hughes³⁶ this specific survey has two main advantages. The first is that the Census Bureau is a disinterested and neutral party. The second is the scope and detail of the survey that ‘allows for cost estimates of specific regulatory programmes’. As we understand it, this means that the survey can provide the foundation for the assessment of individual regulations as well as assessment across regulations.
- 4.6 Another example is provided by the Danish business surveys which revolve around a collection of business administrative cost estimations in each regulatory sector, the aim of which is to identify a regulatory sector in which simplification could yield the most efficient results. The selection relies on information gathered by business surveys of the so-called ‘model companies’ based on a random sample of 1,000 firms. These are then surveyed on how the stock of regulation affects the daily administration of a company, providing a quantification of the total administrative burdens. It considers the representative sample according to business sectors and firm size.
- 4.7 It should again be noted that the surveys of the ‘model companies’ can and have been used to evaluate the effect on administrative burdens of specific government initiatives, for instance the utilisation of ICT in public administration, as well as to provide data to the European Commission on the most cumbersome regulation affecting small and medium enterprises

³⁴ In the USA, the Bureau of the Census provides annual estimates of environmental protection regulations costs. These estimates are based on a survey of 21,000 plants classified in manufacturing, mining and electric utility industries. The survey, dubbed Survey of Pollution Abatement Costs and Expenditures (PACE), requires ‘detailed disclosure of annual operating expenses and capital expenditures for pollution abatement’ (Hughes 1998: 265).

³⁵ US Census Bureau – US Department of Commerce Economics and Statistics Administration (2002), Pollution Abatement Costs and Expenditures: November 1999.

³⁶ Hughes, S. (1998), Regulatory Budgeting, Policy Sciences, Vol. 31, pp 247-278

(SMEs). So, the surveys can provide the evidence base for assessment of individual initiatives (including regulations) as well as assessment across initiatives.

Adding Up

- 4.8 ‘Adding up’ is a process of compilation from academic studies and RIAs that provides a gross indication of the scale and growth of regulatory costs and, less easily, benefits. Adding up often relies on cost estimations derived from the application of different analytical techniques using a variety of sources of information. This makes it difficult to avoid some degree of ‘double counting’ – i.e. the same costs being counted more than once. It has also proved to be more difficult to add up benefits which tend to be quantified in money values less often than costs.
- 4.9 Nevertheless, RIA-based compilations have been used by governments³⁷ and, more recently, by stakeholders³⁸. Typically, they take the form of annual reports, scorecards, and even simple tables showing the sum of the costs revealed by all regulatory impact assessments performed in one period, usually a year.
- 4.10 As we have had occasion to observe elsewhere in this report, the Office for Information and Regulatory Affairs (OIRA) in the US – within the Office of Management and Budget (OMB) – is called on to report on the costs and benefits of regulation. OMB is required to assess the benefits and costs of existing federal regulatory programmes and to recommend specific regulations for reform or elimination. Congress annually receives a report issued by OMB on the results of RIA programmes alongside the estimate of the total annual regulatory costs and benefits and, specifically, with regard to ‘state, local, and tribal government, small business, wages, and economic growth’:
- in aggregate;
 - by agency and agency programme; and
 - by major regulatory area.
- 4.11 Figure 4.2 has been taken from the OMB 2005 draft report and is presented as an example of what can be achieved by the adding up approach. It is worth highlighting some of the points made in the report about the estimates shown in the figure, as follows:
- Ranges for the cost and benefit estimates are appropriate and they can be significant;

³⁷ OMB (2005), Draft 2005 Report to Congress on the Costs and Benefits of Federal Regulations, Washington DC.

³⁸ Ambler, T. Chittenden, F., and Obodovski, M. (2004), Are Regulators Raising Their Game? UK Regulatory Impact Assessment in 2002/3. Report published by the British Chamber of Commerce. Website - http://www.chamberonline.co.uk/pdf/RIA_report.pdf.

- The ranges need to be treated with caution – to the extent that the reasons for uncertainty differ across individual rules, aggregating high and low end estimates can result in totals that are extremely unlikely (although the report observes that this doesn't apply to the EPA regulations included in the table where the uncertainty is similar across the regulations and is related to the estimates of the benefits from reducing mortality risk);
- The majority of the large estimated benefit of EPA regulations is attributable to to reduction in public exposure to a single air pollutant (fine particulate matter) – hence, the favourable benefit-cost ratios associated with the EPA regulations should not be generalised to all types of EPA interventions;
- The benefit-cost ratios are all seem to be favourable – although it is not necessarily appropriate to compare high-end cost estimates with high-end benefit estimates.

Figure 4.1: Estimates of annual benefits and costs of major Federal regulations – selected programmes (1994-2004 in millions of 2001 US dollars)		
Agency	Benefits	Costs
Department of Energy Energy efficiency and renewable energy	5194 - 5260	2958
Department of Health and Human Services Food and Drug Administration Center for Medicare and Medical Services	3348 - 12399 5634	985 - 1160 2538
Department of Labour Occupational Safety and Health Administration	1138 - 3440	349
Department of Transportation National Highway Traffic Safety Administration	4154 - 6917	2267 - 4292
Environmental Protection Agency Office of Air Office of Water	39738 - 200505 1165 - 8307	15171 - 16765 3160 - 3684

4.12 Robert W. Hahn and Robert E. Litan³⁹ provided a critique of an earlier OMB report in which they welcomed the increase in the time period coverage of aggregate regulatory effects to 10 years and the inclusion of new information on aggregate benefits and costs for selected agency programmes. But they argued that more could be done to improve the reports, for example, by reporting the cost-benefit estimates from independent agencies, requesting agencies to provide assessments of the costs and benefits of their regulations and issuing a scorecard assessing the extent to which agency regulatory analyses comply with its guidelines for conducting regulatory analysis.

4.13 Hahn and Litan clearly would welcome more transparency and standardisation in the conduct and reporting of regulatory impact assessments. But, it is also evident that there has been

³⁹ Hahn, R. W. and Litan, R. E. (2003), An Analysis of the Sixth Government Report on the Costs and Benefits of Federal Regulations, AEI-Brooking Joint Center for Regulatory Studies Washington D.C. <http://www.aei.brookings.org/admin/authorpdfs/page.php?id=258> .

good progress on this front since Hahn and Hird's 1991 study⁴⁰ where they sought to estimate the regulatory impact on the economy by relying on previous economic studies conducted in the US. They concluded that the available studies did not sufficiently take account of the benefits of social regulations: *'Adding the costs of social and economic regulation without including benefits produces an inaccurate picture of the overall impact of regulation'* (Hahn and Hird 1991: 233). As a result, existing studies may overstate the actual economic costs of regulation.

- 4.14 They also pointed to two other key problems of regulatory impact assessment at that time. . The first was related to the 'counterfactual', i.e. what would have happened in the absence of a regulatory change. The second concerned the distinction between efficiency costs and transfer payments. The latter *'measure the amount a regulatory change redistributes from losers to winners, while change in net surplus indicates the overall impact on the economy'*. These issues still remain but the OMB reports provide an account of their treatment and demonstrate the overall improvement that can be achieved in aggregating benefits and costs of regulations in different policy fields over a ten year period or even longer.
- 4.15 A comprehensive adding up approach that estimates both benefits and costs in a transparent way provides the potential for:
- Setting up and implementing a regulatory budget (taking due account of benefits as well as costs);
 - Providing a database of methodologies used by academics in assessing regulatory costs and benefits and the potential for establishing and disseminating benchmarks;
 - Providing information to policy makers on the trend of the growth of regulatory costs and benefits.
- 4.16 There are some limitations to the approach – mainly, as already noted, to do with the doubtful accuracy of the aggregate results especially where they rely on different sources of evidence derived using different methodologies. McGarity and Ruttemberg⁴¹ are forthright in stating their doubts about the approach - *'global assessments of entire regulatory programs or even of the entire burden of federal regulation are rarely grounded in firm empirical analysis and are often heavily dependent upon fanciful assumptions'*.

⁴⁰ Hahn, R.W. and J. A. Hird (1991), The Costs and Benefits of Regulation: Review and Synthesis, Yale Journal on Regulation, Winter, pp. 233-278.

⁴¹ McGarity, T.O., and Ruttemberg, R. (2002), Counting the Cost of Health, Safety and Environmental Regulation, [Symposium: The Impact of Civil Justice on the American Economy & Polity], 80 TEXAS LAW REVIEW 1997.

Regulatory accounts or budgets

- 4.17 An adding up approach that incorporates consistent estimates at a micro level to quantify cumulative regulatory costs – expressed in monetary terms - can be used to set up regulatory accounts or budgets that measure the cumulative costs of regulations and seek to put a ceiling on them. Several economists have argued that regulatory agencies in the USA should be obliged to comply with regulatory cost ceilings as a tool for overseeing and controlling the growth of regulatory costs.
- 4.18 A government wanting to construct a regulatory accounting or budget system would need to agree the methods for:
- Determining the types of regulatory costs that should be used in building the regulatory account and/or setting the budget: administrative burdens (see the Standard Cost Model summarised in Figure 4.3⁴²), direct compliance costs (Hampton review⁴³) or regulatory costs which include social and indirect regulatory costs;
 - Establishing a quantitative target to achieve in a period of time and, consequently, estimating regulatory costs related to the stock of all existing regulations (see the Dutch experience with administrative burdens) or use regulatory cost caps;
 - Developing a methodology that can be used for data collection and analysis of data, including trends and reporting them in a transparent fashion.

Figure 4.2: The Standard Cost (Dutch) Model

The Dutch approach sets out to reduce the paperwork and administrative costs associated with regulation and has three components:

Measuring the administrative burden

- Every government department is charged with using a standardised approach to measure the existing administrative burden which it imposes on business through its regulatory activities.
- The measurement includes all the administrative obligations imposed by central government departments and regulatory agencies under both national and European legislation.

Committing to targets for reducing administrative burdens

- The government needs to agree that it will be a priority to reduce the administrative burden across the whole of government regulation and set a reduction target. The Netherlands chose a target of 25% over four years – implemented with some limited flexibility across different government departments.
- The target needs to be a net target – the agreed level of reduction is to be achieved after taking account of any new burdens from regulation brought in by the government or the EU during the period of the target.

⁴² The description of the Dutch model is taken from the report by the Better Regulation Task Force; *Regulation – Less is More: Reducing Burdens, Improving Outcomes*; March 2005

⁴³ Hampton, P. (2005) *Reducing Administrative Burdens: Effective Inspection and Enforcement*, Final Report to HM Treasury.

Figure 4.2: The Standard Cost (Dutch) Model

Establishing organisational structures and procedures

- The Dutch have established an independent public body (called Actal) to act as a watchdog. Departments are required to send Actal details of all new legislative proposals and their estimation of the administrative burden involved. Actal reviews the estimates and issues an opinion before the proposals are submitted to the Council of Ministers and the Parliament. It also evaluates the administrative burden reduction programmes that departments are required to submit annually to the Parliament.
- The Minister of Finance takes responsibility for achieving the administrative burden reduction target and delivers a progress report to Parliament every six months. The Minister is supported by a dedicated cross-departments team that coordinates delivery of the programme.

- 4.19 The first step is crucial; estimation requires critical assumptions to be made regarding the definition of costs and the benchmarks to be used for comparison purposes. It is also important to identify whether to focus exclusively on the private sector or to include regulatory burdens on the public sector. There will always be important caveats to this process - regulatory costs *'can never be precisely measured, and a budget cannot achieve absolute precision'* (Crews 1996:2). The more aggregated the measure of regulatory costs, the more likely that estimation is complex and more susceptible to error.
- 4.20 The second step is to decide whether to propose a quantitative target in limit the growth in regulatory costs. This approach is adopted in those continental European countries that base their better regulation policy on simplification and reduction of administrative burdens, such as Belgium, Denmark, and the Netherlands. Indeed, these countries' governments set a quantitative target of 25% reduction of administrative burdens to be achieved in a specific period of time – similar to the suggestions made by the BRTF.
- 4.21 The third step is a consequence of the decision to establish quantitative targets to reduce regulatory costs, namely to ensure that the cost estimates are consistently derived. Essentially, there are four options available:
- Businesses surveys of on specific regulatory costs or a compilation of businesses surveys;
 - Engineering and financial studies (see the earlier discussion of non-behavioural approaches to assessment);
 - Compilation of academic studies (Hahn and Hird 1991, Hopkins 1998); and
 - A mix of previous methods.
- 4.22 It is fair to say that the chosen methodology should be coherent with the RIA process and procedures existing in a specific country. Achieving this coherency enables regulatory budgets to strengthen the RIA process.

- 4.23 The regulatory accounting or budgeting approach can facilitate a systematic review process of establishing a databank of regulatory costs; this helps to develop a standard methodology of data collection and comparison of cost information that can be used to inform the ex-ante appraisal of future regulations. Once a robust database has been constructed and analysed, it also establishes clear priorities for potential cost reductions among regulatory programmes. It forces regulators to be more accountable and provides incentives for economy and cost-effectiveness in designing regulations.
- 4.24 Regulatory accounts or budgets need to be implemented across all central government departments and agencies and will require one single body for collection, monitoring and evaluating the data. This means that the process is likely to be expensive and time consuming. It will also rely on the effectiveness with which central government departments can establish and use standardised concepts for measuring costs and communicate with each other to build a shared and centralised databank on regulatory burdens.
- 4.25 The approach also needs to be implemented to avoid introducing systematic biases that might be regarded as perverse. Thus, a focus exclusively on, say, administrative costs could encourage optimism bias in the assessment of costs – i.e. leading departments and agencies to tend to under-estimate costs. Since administrative costs are easier to measure, it will incline regulatory agencies to focus on these costs of regulation rather than total policy costs.
- 4.26 The approach could also focus attention on costs rather than benefits which are hard to quantify especially in monetary terms. It is likely to lead to appraisal of specific regulatory options in which the least short-term cost option is preferred over the one that maximises the benefits relative to the costs over time. Moreover, where there is the prospect that regulatory budget ceilings will be breached, the higher cost regulations within the portfolio are more likely to be challenged than those with the least favourable cost-benefit balance.
- 4.27 Finally, the regulatory accounting or budgeting approach tends to give as much weight to regulations introduced ten years ago as to those implemented in the last year. Apart from the obvious need to standardise monetary valuations (i.e. through the use of constant prices and discounted values), there is the additional issue of how to acknowledge and treat adjustments by firms to the regulation (through technological change and other means) that may reduce their administrative and compliance costs over time. This could be particularly important where the costs were obtained ex ante by reference to the engineering and financial conditions prevailing at the time the regulation was introduced.
- 4.28 From an economic point of view, the achievement of an optimum use of scarce resources through regulation would require the regulatory accounting or budgeting approach to be

implemented within assessment procedures that prompted consideration of total policy costs and benefits as well as the direct, administrative costs imposed by regulation.

Cost-benefit assessments

- 4.29 Strictly speaking, cost-benefit analysis is an analytical tool for use in the consideration of the marginal costs and benefits associated with the proposed introduction of a regulation. It is not, in this sense, appropriate for situations requiring general equilibrium analysis. However, a cost-benefit assessment of the cumulative effects of regulation might be possible although, as was noted in Section 2, such assessments are likely to be particularly problematic. They either require a macro analytical approach of which there are only a few examples in the literature (and then focused on costs⁴⁴) or a micro assessment of costs and benefits as they accumulate at the level of particular markets or sectors – or some other relevant micro segmentation.
- 4.30 Nevertheless, it seems to us that, if the policy concern with cumulative regulatory impacts is to be seriously addressed, the methods that are adopted to do so must take cognisance of the effects on benefits as well as costs. It may well be, as the NERA report pointed out⁴⁵, that to *“analyse the combined costs and benefits of regulation in a market will typically be prohibitively difficult because of the complex interactions that take place over time between the . . . regulation, taxes and other government interventions, firms’ strategies, changes in technology and so on”*. But we agree with NERA that there are less difficult and still useful ways in which the cumulative impacts of regulation can be monitored and evaluated, for example through surveys of businesses and their suppliers and customers. We think that this should be done in those markets or other segmentations which have been given political priority (e.g. small firms) and/or where the ex ante assessments suggested the costs were likely to be most severe and/or where there was particular uncertainty about either the costs or the benefits.

Conclusion

- 4.31 Our review of assessment methods and their application across regulations leads us to the conclusion that ex ante appraisals must be complemented by ex post evaluations within a more integrated and standardised approach to the overall assessment of regulations. The methods that we think are appropriate for this are ‘adding up’ methods that address both costs and benefits (using ex ante estimates) tested and validated by supplementary surveys of business and consumers in sectors, stakeholder groups and/or locations where the regulatory

⁴⁴ The assessment by Hazilla and Kopp of the social cost of regulation (i.e. the total cost of direct and indirect negative regulatory effects)

⁴⁵ NERA: The FSA’s Methodology for Cost-Benefit Analysis: November 2004

costs are expected to be relatively high and/or where the effects as assessed in the RIA were surrounded by particular uncertainty.

Figure 4.3: Analytical methods for assessment across regulations								
Methods	Cumulative impact	Interactive effects	Segmentation analysis	Monitoring and feedback	Advantages	Limitations	Implementation costs	
							regulated parties	public sector
Business Surveys/Consultations	YES	NO	YES, if designed appropriately	Ex-ante surveys/consultative audience can be set in a way such that they can be contacted again at monitoring stage to gain validation of ex-ante evidence and any capture any unintended effects	Flexible tool in terms of design and application It may provide the best available empirical data on private regulatory costs especially in those sectors where cost analyses are missing	Regulators' bias –often the only source of empirical data on regulatory impact (lack of validation of survey results) - Data not always connected to other estimations of costs and benefits hence hard to validate against sources with alternative methods	Medium-High, depending on the degree of details and accuracy of data requested from business	Medium-High The costs of designing the questionnaire and maintaining the dataset of survey results Difficulty in getting financial data from firms
Adding Up	YES	NO but has the scope for assessing net instead of gross impact	Business dimension and sectors (Crain and Hopkins 2001) The collection can be composed by microeconomic analysis for regulatory sectors of the market	If applied ex-ante can ensure that ex-post methodology is harmonised with regard to methodology - If ex-post is conducted on stock of regulations, results can help build database for ex-ante analyses	A Macro approach (add from CR's note)	Accuracy of estimates dependent on heroic assumptions since not grounded in firm empirical evidence There is no aggregate study of regulatory costs yet conducted in the UK	Low	High (to fund academic researchers and find resource to conduct large scale regulatory review using this method)
Regulatory Accounts or Budgets	YES	NO	YES if conducted through engineering studies or appropriate business surveys	Essentially ex-post tool – sets context for ex-ante appraisal Contributes to development of a standard methodology of collection and comparing regulatory costs	Reduces cost burden on private sector Increases accountability and prompts low cost regulation Provides for learning feedback to inform regulatory appraisal	Introduces perverse incentives by only taking account of regulatory costs - prompting underestimate of costs and low cost rather than efficient regulations Time consuming and expensive	Low-Medium as it depends on the choice of methodology to estimate regulatory costs	High

Note: For completeness and convenience, this table includes a row devoted to business surveys and consultations that is much the same as appeared in Figure 3.5 on the analytical methods appropriate for the ex ante and ex post assessment of individual regulations.

5 Conclusions, recommendations and a way forward

Conclusions

- 5.1 We highlighted in Section 2 the main areas for potential improvement in the methods of assessment of individual regulations and of cumulative impacts across regulations. In the next two sections we explored the extent to which these potential improvements were reasonable and feasible in the light of the regulatory assessments and the analytical methods we reviewed. We came to the conclusion that there were practical and analytical constraints on what could be done in the ex ante appraisal of a proposed regulation and its ex post evaluation and in addressing the separate policy issue of the build up of cumulative impacts across regulations and time.
- 5.2 These constraints were to do with a) the limitations of time, resources and information when carrying out ex ante appraisals, b) the complexity of unravelling the costs and benefits of a regulation from other influences in an ex post evaluation even when it was confined to a specific regulation operating in a particular market, and c) the limits of the available analytical tools for assessing the cumulative effects of more than one regulation over time.
- 5.3 Nevertheless, we concluded that, despite these constraints, advances could be made that would help to improve the regulatory assessment process. Moreover, the advances were relatively straight-forward and some of them were not likely to involve significant costs. Our broad conclusions in this regard are developed into recommendations in the next sub-section. The final sub-section suggests a way forward to illustrate and test what implementation of the advances might involve in practice – to provide the evidence base for further roll out of the recommended improvements.

Recommendations

Recommendation 1: Ground the assessment of regulations in a ROAMEF policy cycle

- 5.4 Our first recommendation is, to our mind, the most important in that it is directed at improving the overall policy context in which assessment is carried out of particular proposed regulations. We recommend that regulatory assessment should be more firmly grounded in the ROAMEF appraisal and evaluation cycle set out in the Treasury's Green Book.
- 5.5 This recommendation will require policy actions to be taken as follows:

- Introducing the ROAMEF cycle approach explicitly into the next version of the regulatory impact assessment Guidance thus increasing its visibility and use among economists in regulatory bodies and central government departments;
- Requiring the Guidance to charge departments and agencies with the responsibility for embedding the ROAMEF approach by ensuring that their ex ante appraisals set out an explicit logic chain that describes how the proposed regulations are likely to have their intended effects – i.e. achieving the outcomes consistent with the regulatory objectives – and identifies the most significant areas of uncertainty within the logic chains with respect to both costs and benefits;
- Broadening the concept of Regulatory Impact Assessment within the Guidance to embrace ex post monitoring and evaluation of proposed regulations as well as their ex ante appraisal and requiring appraisal reports from departments and agencies to contain specific recommendations on how, when and in what respects the regulations should be evaluated;
- Providing advice within the Guidance on the conduct of regulatory monitoring and evaluation and requiring reports from departments and agencies on the results of the evaluations with regard to a) how they might alter the balance of argument for the regulations as they have been implemented and b) lessons that should be learned for future ex ante regulatory impact assessments;
- Requiring the Cabinet Office and Better Regulation Units within departments and agencies to:
 - provide quality assurance on both ex ante appraisals and ex post evaluations;
 - become the custodians of the evidence base that such evaluations will provide; and
 - develop the evidence base over time into a body of transferable benchmarks and best practices.

Recommendation 2: Clarify key concepts in regulatory impact assessment

- 5.6 The second recommendation is for a clarification of the key concepts in assessment. There are, in our view, still too many loose ends even in the recently revised Guidance in the definitions and use of key concepts such as the different categories of regulatory costs. Many of these concepts are difficult to translate into quantitative estimates - definitional clarity will not solve these problems but it will help.
- 5.7 Therefore, we recommend that the RIA Guidance revisits the definitions of key assessment concepts and seeks to explain how they relate to each other. The definitions we provide of regulatory costs in Figure 3.2 might be an appropriate starting point and we suggest that the

cascade depiction of the concepts in Figure 2.2 might be a useful way of showing how the concepts nest within each other to provide an over-view of potential regulatory impacts.

- 5.8 We recommend, in particular, that the Guidance should make a clear distinction between the concepts of interactive and cumulative effects of regulation and the different policy contexts in which their use will be appropriate.

Recommendation 3: Develop more advanced segmentation analysis in ex ante regulatory assessment through ex post evaluation

- 5.9 Our review suggested that a segmented or more disaggregated approach to regulatory impact assessment should be developed in two ways that reflect the distinction drawn in the Treasury's Green Book between efficiency and distributional impacts:

- **Efficiency impacts:** The earlier recommendation to encourage greater use of logic chains in regulatory impact assessment will require an appreciation of the ways in which the transmission mechanism from regulation to outcomes and impacts works differently in particular markets. There are a number of factors likely to be relevant here – such as the definition of the market(s) most likely to be affected by regulations in a specific policy field (e.g. employment or environmental), the degree of concentration in the market(s) and the nature and degree of factor intensity (e.g. capital, labour or energy intensity). This appreciation of segmented market effects is an area that is under-developed in regulatory impact assessments.
- We recommend that the DTI should take the lead with other departments as appropriate in drawing on the body of knowledge available from the implementation of competition, consumer protection and other regulation and intervention policies to:
 - provide advice and guidance on typologies of markets where regulation logic chains and their transmission mechanisms might be expected to be markedly different;
 - depict the nature and extent of any such differences and how they might be taken into account in future regulatory impact assessments in similar markets; and
 - identify where there are major gaps or uncertainties pertinent to regulatory assessment that could be addressed through ex post evaluation.
- **Distributional impacts:** The distributional impacts of regulation have taken on more significance in recent years. Not only is there a policy interest in transfers between businesses and consumers and about the consequences of regulation for small firms, but there may also be a policy interest in the impacts on rural and deprived areas, on racial equality, and on environmental quality. This is another aspect of regulatory

assessment that remains under-developed but, in this case, there is not a significant body of evidence to draw on for advice and guidance that might be helpful in regulatory impact assessment.

- We recommend that the Cabinet Office and Better Regulation Units within departments and agencies should:
 - review regulatory impact assessments to identify any policy areas and specific regulations where these distributional impacts might have been expected to be both likely and severe (e.g. employment regulations);
 - consider whether, in the light of this evidence, surveys of specific stakeholder groups should be carried out to establish the extent and severity of any potential distributional impacts; and
 - ensure that the lessons from any such surveys are used to prompt review of the design and delivery of the relevant regulation(s) and are incorporated in a systematically maintained body of knowledge to inform future ex ante appraisals of regulations of a similar kind.

Recommendation 4: Test and develop methods for estimating cumulative impacts

5.10 We recommend that there should be ex post consideration of cumulative impacts across regulations and over time in specific policy fields where adding up of the costs estimated in ante appraisals suggests a significant increase in regulation costs over the period and/or where the costs appear to reach a high proportion of total costs in the relevant market(s). This recommendation could be integrated with Recommendations 1 and 3 whose acceptance would also trigger more ex post assessment of specific regulations through research and evaluation. However, we think the recommendation is justified in its own right in order to:

- Test the robustness of the adding up method for assessing cumulative costs of regulation as a whole (and for specific stakeholder groups – see Recommendation 3) when it has to rely on ex ante cost estimates perhaps derived on different definitions and by different methods;
- Develop more robust and consistent methods for ex ante estimation of costs and for adding them up to give cumulative costs; and
- Explore the extent to which conclusions that might be drawn from the adding up of cumulative costs should be moderated on broader definitions of costs (e.g. policy rather than administrative costs) and by the inclusion of cumulative benefits.

- 5.11 We suggest that the testing of the adding up approach should be confined to a specific policy area in the first instance but that it should involve the Cabinet Office and more than one other department or agency to ensure that the lessons learned are commonly owned and shared.

Recommendation 5: Build a knowledge base on analytical methods and evidence

- 5.12 Our review of the available guidance on regulatory impact assessment and the conduct of such assessments in the context of the employment and environmental regulations did not indicate that there had been much by way of formal sharing of experience with regard to either the effectiveness of particular analytical methods or the evidence they generated – even within the same policy fields. The possible consequence of this is that assessments are being carried out of proposed regulations in ways that are not informed by previous experience. It may even mean that there is duplication of effort in obtaining information with respect to the same variables (as claimed in the NERA report on the assessments of financial services regulations with regard to the estimation of compliance costs).
- 5.13 We recommend that the Cabinet Office should work with departments and agencies to build a knowledge base that covers the following:
- Descriptions of analytical methods relevant to regulatory impact assessment – along the lines set out in Figure 3.5 – with case studies to show the circumstances in which they would be appropriate, how the methods should be used and the way in which their results should be interpreted;
 - Best practice examples in the design and application of the tools for implementing the methods – e.g. how to select representative samples of businesses and how to design effective telephone surveys for assessing regulatory costs⁴⁶; and
 - The outcomes from the application of different analytical methods with regard to the estimation of categories of regulatory costs, benefits and risks (especially countervailing risks).

A way forward

- 5.14 We propose that these recommendations should be piloted in a study confined to a specific policy area and involving the following stages:
- **Stage 1: Selection of regulations within a specific policy area for piloting purposes:** We suggest that it might be appropriate to select employment regulation

⁴⁶ This proposal builds on some work that has already been initiated by the Cabinet Office – see ⁴⁶ Regulatory Policy Institute (2004). ‘*Pilot study of a combined postal, telephone and structured interview methodology for assessing the impact on business on existing regulation*’,

for this purpose on the grounds that the DTI has already started planning the monitoring and evaluation requirements of some of the employment regulations recently evaluated - Employment Relations Monitoring and Evaluation Plan 2004⁴⁷. We think it would be advisable to include in the piloting process those regulations which the assessments identified or implied might interact with the regulation that was assessed. It would be advantageous if this broadening of scope brought in other departments and agencies.

- **Stage 2: Identification of the aspects of the selected regulations where evaluations would be appropriate:** Our own review suggests that the regulation logic chains were not fully specified and that there may be gaps and particular uncertainties in the ex ante assessments of the employment regulations. These could form an appropriate focus for ex post evaluations. However, it would be necessary to review the available secondary data to see to what extent they filled the gaps or addressed the uncertainties in the assessments before deciding what the focus of the ex post evaluations should be. This stage of the study would also need to identify the form the evaluations should take as well as the aspects to be evaluated.
- **Stage 3: Clarification of key analytical concepts:** We suggest that the assessments of the regulations should be used to identify where it would have been helpful to have had clarification of the key concepts relating to the costs, benefits and risks of the regulations. The study would provide detailed definition of these concepts, how they related to each other and how they might be operationalised and quantified through the evaluation.
- **Stage 4: Segmentation in the evaluations:** This stage of the study would need to consider the market(s) and stakeholder groups that might warrant specific attention in the evaluations because the effects on them were thought likely to be most significant - or where this could be inferred even though there was uncertainty and/or lack of quantification in the assessments on the scale and nature of the effects.
- **Stage 5: Cumulative impact of the regulations:** As well as a review of the assessments to specify where evaluation might provide the most helpful learning, the study would need to take a look across the regulations and provide estimates of their cumulative costs and benefits based on adding up the quantified costs and benefits. Application of this approach would require adjustments to the RIA estimates of costs and benefits to account for methodological differences in their derivation and for differences in the time periods over which they were calculated (i.e. by applying deflator and discount rates). This approach is likely to uncover shortcomings in the

⁴⁷ Employment Relations monitoring and evaluation plan, 2004, ER Research Series No. 34, Employment Market Analysis and Research

evidence required for comprehensive adding up of even the different categories of costs. These could form the focus for the ex post evaluation work.

- **Stage 6: Ex post evaluations:** In the light of the conclusions from the previous stages, we suggest that analysis and evaluations should be carried out – not necessarily of all the regulations in the policy field nor of all aspects of the regulations but only on those aspects that will be most helpful in providing understanding of the opportunities for and constraints on rolling out our recommendations more generally.
- We had in mind that the evaluation(s) might take the form of business and/or employee surveys. Their specification should be informed by the findings of the recent study commissioned by the Regulatory Impact Unit and the Cabinet Office that tested “*a variety of methodologies for measuring the impacts of regulation, using the surface engineering industry as its chosen sector*”.⁴⁸ Ex-post surveys cannot always be conducted and it may well be necessary to supplement them with other research methods including focus group consultations.
- **Stage 7: Improving assessment methods:** This final stage of the study would need to use the evidence it had generated to consider the extent to which our recommendations for improving regulatory impact assessment could be rolled out effectively and cost-effectively and what would need to be done to make sure this happened.

⁴⁸ Regulatory Policy Institute (2004). ‘Pilot study of a combined postal, telephone and structured interview methodology for assessing the impact on business on existing regulation’, The Cabinet Office, Regulatory Impact Unit.

Annex A: Study Specification

Stage Description	Objective	Activities	Key Responsibilities	Key outputs /milestones
STAGE 1: Inception meeting and detailed specification	To meet with Steering Group to agree project specification, work programme and key outputs	a) Develop and discuss detailed project specification	SQW/UoExeter a) To develop specification for agreement with DTI and Steering Group DTI and Steering Group a) To discuss and agree to specification Project Manager at SQW to be first point of contact	For all parties to agree to specification by 24/12/04
STAGE 2: Review of guidance and wider RIA literature	To assess RIA guidance and wider RIA literature for evidence of: a) Acknowledgement of interaction between regulations b) Guidance on identifying potential interaction between regulations c) Guidance on assessing the impact of interaction (or cumulative impact) between regulations both ex-ante and ex-post	a) Review Key Regulatory Impact Guidance (for example Green Book, Cabinet Office and DTI plans) b) Review the processes and procedures that DTI has in place for applying ex-ante and ex-post assessments c) Review academic literature on the, accuracy of cost estimates, quality of economic and market analysis in RIA, and indicators of regulatory quality d) Consultations with key DTI staff to obtain information on apparent evidence gaps, help development of evaluation methodology and gauge early opinion about review of regulations (see stage 6)	SQW/UoExeter a) Conduct review of guidance and literature b) Conduct consultations DTI and Steering Group a) Provide lead on existing guidance and literature b) Provide key contacts within DTI and other departments where possible Project Manager at SQW to be first point of contact	Identification of gaps in RIA guidance and wider literature
STAGE 3: Review of application	Using a sample of regulations, review the application of the RIA and literature guidance with specific focus on cumulative impact. This will: a) Assess the extent to which RIA guidance on interaction between regulations is being carried out in practice b) Identify stakeholders, sectors or types of activity where cumulative impact is significant	a) Identify a sample (between 5 and 10) of regulations with the aid of the Steering Group. All regulations in the sample will preferably have been evaluated ex-post by DTI or others. This will influence the scope of the stages below. b) Produce and apply a template in order to assess ex-ante and ex-post assessments by drawing on the evidence produced by our sample c) Assess economic analysis in ex-ante and ex-post assessments with a specific focus on	SQW/UoExeter a) Consult with Steering group on selection of regulations and criteria for interaction b) Conduct review of ex-ante and ex-post assessments and procedures in practice Steering Group a) Provide key documents – RIAs and evaluations b) Provide lead on existing RIAs and	Identification of gaps in the application of ex-ante and ex-post assessments

		<p>cumulative impact</p> <p>d) Conduct any further consultations with DTI and/or other Government organisations to aid understanding of ex-ante and ex-post assessment that have been used in the sample</p> <p>e) Illustrate where and how cumulative impact is taking place within sample regulations</p>	<p>evaluative evidence</p> <p>c) Provide lead on selection of regulations</p> <p>d) Provide key contacts within DTI and other departments where possible</p> <p>e) Provide additional support and evidence on regulation interaction</p> <p>Project Manager at SQW to be first point of contact</p>	
<p>STAGE 4 Development of cumulative impact framework</p>	<p>Using the outputs from stages 2 and 3, develop a cumulative impact framework giving guidance on:</p> <p>a) The identification of cumulative impact issues within the sample regulations</p> <p>b) How to assess cumulative impact within the sample regulations</p> <p>c) How cumulative impact can be built into the ex-ante and ex-post evaluation of the sample regulations</p>	<p>a) Use sample regulations to demonstrate the key variables, mechanisms, and problems of cumulative impact and its measurement</p> <p>b) Assess how cumulative impact can be integrated into ex-ante and ex-post assessments</p>	<p>SQW/UoExeter</p> <p>a) Develop cumulative impact framework</p> <p>b) Consult with Steering Group on a continuous basis to identify risks and clarify aspects of the framework</p> <p>From Steering Group</p> <p>a) Provide links to key contacts within DTI and other departments for further consultation if required</p> <p>Project Manager at SQW to be first point of contact</p>	<p>Development of a cumulative impact framework for sample regulations</p> <p>Recommendations for revised ex-ante and ex-post design and feasibility of application for sample</p>
<p>STAGE 5: Interim Report</p>	<p>Preparation and presentation of Interim results from previous stages to DTI and the steering group</p>	<p>a) Produce and present Interim report</p>	<p>SQW/UoExeter</p> <p>a) Produce and present Interim results</p> <p>From Steering Group</p> <p>a) Provide feedback</p>	<p>Deliver Interim Report to DTI and steering group w/c 21st February</p>
<p>STAGE 6: Review of RIA process</p>	<p>Using the outputs from the previous stages, identify how cumulative impact can be built into the ex-ante regulation assessment process in such a way that enables better linkages with ex-post assessment</p>	<p>a) Revisit guidance and RIAs of selected regulations</p> <p>b) Show how components of RIA may change if cumulative impact is taken into account</p> <p>c) Highlight potential risks and difficulties in the implementation of cumulative impact at RIA stage</p>	<p>SQW/UoE</p> <p>a) Develop recommendations on RIA design when incorporating identification and assessment of cumulative impact</p> <p>b) Inform on potential risks and implementation issues.</p> <p>Steering Group</p> <p>a) Review outputs</p> <p>Project Manager at SQW to be first point of contact</p>	<p>Recommendations on a potential revised RIA design</p>
<p>STAGE 7: Draft Final and Final Report</p>	<p>Provide finalised report and analysis and cumulative impact framework.</p>	<p>a) Compile and produce report and cumulative impact framework</p>	<p>SQW/UoE</p> <p>a) Compile and produce report and cumulative impact framework</p>	<p>Draft Final report to be completed by the end of March (date TBA) with Final Report to be completed in April</p>

Annex B: List of consultees and topic guide

Consultee list

Dan Brown, Head of regulation and Business Finance, *HM Treasury*

Clive Fleming, Head of the Better Regulation Team, *DTI*

Jonathan Gershlick, Economic Advisor, Maternity, Paternity and Adoption Regulatory Simplification RIA, Employment Market Analysis and Research, *DTI*

Paul Hadley, Deputy Director, *Small Business Service, DTI*

Alison Kilburn, Senior Economic Advisor and Matthew Barnes, Economic Advisor *RIU, Cabinet Office*

Beatrice Parrish, Senior Economist, Employment Relations, *DTI*

Trevor Reid, Economic Advisor on Sustainable Development in relation to Recycling Policy, *DTI*

Graham Stokes, John Walsh and Gavin Lambert, *Defra*

Ken Warwick, Deputy Chief Economist, *DTI*

Fiametta Gordon, Chief Economist and Malcolm Darwin, Head of Better Regulation and International Branch, *Health and Safety Executive*

Topic Guide

Reasons for the consultation

1. Thanks very much for agreeing to this consultation. By way of background, SQW and Claudio Radaelli from Exeter University have been commissioned by the DTI to “develop and consider how regulations interact and overlap with respect to administrative and policy outcomes”.
2. The concern of the DTI’s Strategy Unit was that the cumulative impact of more than one regulation on business and other stakeholders might not have been fully allowed for in the assessment of the regulatory impact or that there might have been unforeseen effects from the interaction between regulations. This might have increased the regulatory costs or reduced the benefits or both.

3. We are carrying out a preliminary consultation amongst policy and expert officials in DTI to take soundings on the potential scale and nature of any such cumulative impacts, where they might have occurred and the form they took and what might be done about it.
4. You have been suggested as someone likely to have experience and views of a range of regulations. We'd welcome any views you might have on cumulative regulatory impacts generally or in specific circumstances with which you might be familiar.

General information

5. Just for our records, can I confirm that you are responsible for
6. I should emphasise that all information provided during the course of this consultation will be treated as strictly confidential.

Cumulative impacts

7. What is your understanding of the concept of "cumulative impact" of a regulation?
 - (If necessary, re-iterate our understanding of cumulative impact at this point with an example: Interaction between the Working Time Directive (WTD) and the Minimum Wage (NMW) Legislation – administration of information, full costs of compliance need not necessarily be taken into account for both of these regulations, as the monitoring requirements could be combined.)

Review of guidance and its application

8. With respect to general guidance and advice on ex ante impact assessment and ex post evaluation of regulations, what acknowledgement are you aware of that has been provided of the potential interaction between regulations and its cumulative impact and what form did it take?
9. Have there been any suggestions in the guidance or more generally in the literature of which you are aware on how the cumulative impact of interventions might be estimated – ex ante or ex post – and, if there were, what form did they take?
10. In your general experience, to what degree has there been a coordinated/systematic sharing and analysis of information within and between departments on specific or general regulatory matters about the potential interaction with other existing or planned regulations and its potential impact? If so, what form did it take and what use was made of the information?

Presence of cumulative impacts

11. With regard to more general experience of regulations and their assessment, are you aware of evidence on regulatory interactions and their cumulative impacts? Can you provide references to the evidence base?

12. Which regulations do you suspect or have evidence about that might offer examples of cumulative impacts arising from interaction between regulations? What evidence should we consider to explore these effects?
13. What do you think characterises the circumstances where the interactions and cumulative impacts are most likely to occur?

Measurement problems

14. One reason for limited evidence on the extent and effects of regulatory interactions is that they may be difficult to measure. What do you think are the difficulties/barriers in measuring the effects?
 - Complexity of the interaction / too difficult to track down the impact of a rule across sectors and policies
 - Lack of co-ordination between departments
 - Lack of information on costs and benefits arising out of the interaction between regulations
 - Lack of information and market analysis on how stakeholders may react to the combined effect of interacting regulations
 - Uncertainty about degrees of enforcement
 - Lack of methodology
15. If these difficulties could be overcome, do you think they might reveal regulatory interactions and cumulative impacts that really should have been and should be taken into account in assessments and evaluations?
16. What can be done to overcome the difficulties?

Recommendations

17. If you think the scale and nature of potential cumulative impacts deserve to be taken into account in RIA and in evaluations of regulatory impact, do you have any recommendations about the methodology for doing so and where it might be focused?

Possible Levels of analysis:

- Policy objectives
- Economic analysis (cost-benefit analysis)
- Competition
- Monitoring
- Evaluation
- Consultation etc....

Possible sectors to consider

- Businesses/stakeholders or activities affected etc...

(Remember to enquire about ex-ante and ex-post methodology with a view that the two should ideally be linked).

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Annex D: Sample of Environmental Regulations

The sampled regulations

1. The two environmental regulations selected for review were the **End of Life Vehicles (ELV) Directive** and the **Waste Electrical and Electronic Equipment (WEEE) Directive**. The Directives are the first two Producer Responsibility Models to be proposed in the UK. Producer responsibility stems from European legislation which was introduced to meet the growing concern about particular waste streams and their impact on the environment. It is an extension of the polluter pays principle aimed at ensuring that businesses take responsibility for the products they have placed on the market once those products reach the end of their life.

End of Life Vehicles (ELV) Directive

2. This Directive originates from an EC Directive that aims to reduce or prevent the amount of waste produced from ELVs and increase the recovery and recycling of ELVs. The majority of the Regulation 2003 came into effect in November 2003 with the remaining Directive provisions relating to producer responsibility due to be transposed through the ELV (Producer Responsibility) Regulations 2004.
3. The ELV (Producer Responsibility) Regulations 2004 state that:
4. Owners must be able to have their complete ELVs accepted by collection systems free of charge, even when they have a negative value, from Jan 2007 at the latest (earlier in respect of vehicles put on the market on or after 1 July 2002)
5. Producers (vehicle manufacturers or professional importers) must pay back all or a significant part of the costs of take back and treatment for complete ELVs
6. Rising targets for re-use, recycling and recovery must be achieved by economic operators must be achieved by 2006 and 2015.

Waste Electrical and Electronic Equipment (WEEE) Directive

7. The Directive seeks to prevent waste arising, to encourage the reuse, recycling and recovery of WEEE and to improve the environmental performance of all operators involved in the lifecycle of electrical and electronic equipment. A stakeholder consultation has recently taken place (closing date 11th Feb) and the Directive is to be transposed during 2005.
8. The WEEE Directive seeks to make producers responsible for financing most of its associated activities; retailers and distributors also have responsibilities in terms of take-back of WEEE and the provision of certain information; and private householders are to be able to return their WEEE without charge.

Integration of ex ante and ex post assessment

9. Our review of the assessments of the sampled environmental regulations suggested that they incorporated some of the elements that would be necessary for a more integrated approach but did not generally weave them together effectively. Some aspects, especially monitoring and evaluation of impact, were missing or under-played, partly because the Directives are relatively new.
10. The ELV Directive RIA does not explicitly discuss the underlying market failures that may have introduced the EC Directive in the first place nor does it account for the baseline levels of waste with regard to ELV and other economic and environmental conditions. On the other hand, the RIA for the WEEE Directive briefly sets out the market conditions underpinning the rationale for the Directive and illustrates baseline economic conditions (current levels of WEEE) and the potential impact of the Directive on specific environmental outputs.
11. Both RIAs spell out the broad aims and objectives and set out specific and time bound targets towards reuse and recovery. For the ELV, targets derived from the aims of the Directive are set and linked to outputs such as rise in recycling, reuse and recovery to achieve the desired outcome, i.e. reduction in the amount of waste from ELV. For the WEE these are set and linked to outputs such as collection and recovery, to achieve the desired outcome, i.e. prevention of WEEE. At this stage, or even later in the RIAs the linkages between objectives, targets, outputs and impacts are not clearly defined.
12. The RIAs displayed a good analysis of process and costs of implementation of the Directives. Broad risk assessments reflecting reduction of risks to human health and environment (indirect effects) are described for both Directives. Costs of implementation under specific statutory instruments are detailed and quantified. Benefits are outlined with an acknowledgement that these are difficult to quantify, especially environmental benefits. For the WEE Directive, the RIA estimates the impact of Directive on WEEE against various environmental outputs and compares them with existing baseline conditions.
13. Both RIAs briefly state that monitoring will be done by enforcement agencies and DTI to enable evaluation but does not describe how and when although our consultation with departmental colleagues suggested that there are plans to conduct evaluation two years after the transposition of the Directives.
14. Later parts of this annex will deal with our consideration of the treatment of interactive regulatory impacts, the application of market segmentation in the assessments, and the concepts and analytical tools used.

Analytical Concepts

Interactive impacts

15. The assessment of the ELV Directive contains acknowledgements of interactive impacts between the proposed ELV Directive and the following other related environmental regulations but only in terms of their potential relevance:
 - The Landfill Directive
 - EC Waste Framework Directive
 - Environmental Protection Act
 - Waste Management Licensing (WML) Regime
 - Hazardous Waste Regulations
16. In some cases, the scope for interaction in implementation was recognised. For example, the assessment recognised the overlap between the ELV and the Hazardous Waste List (HWL), “a vehicle that has been consigned to a collection point as waste and has become an ELV will become subject to the new hazardous waste regulations...the ELV Directive does not necessarily remove all hazardous components with regard to the Hazardous Waste List.... Guidance on de-polluting a vehicle under ELV and HWL will be made available”. It also proposed to produce a combined guidance note for both Directives.
17. The potential interactive impacts of regulations received some recognition in the ongoing assessment of the WEEE Directive. It acknowledged the potential interactions between the Directive and the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) Directive, the Ozone Depleting Substances (ODS) Regulations and the Landfill Directive. The latter of these interactive impacts was quantified in terms of a set of estimates of the reduction in the amount of landfill that might occur as a result of the WEEE Directive.
18. However, it is possible that some potential interactions were neglected. For example, there is no discussion of the possible interaction between the WEEE Directive and the Health & Safety Electrical Equipment Safety Regulation. This interaction may not be significant but its omission from consideration might suggest that the review of related regulations was not comprehensive.

Segmentation Analysis

19. The assessments of the sampled regulations used the following types of segmentation:
 - Industry type - both assessments identified the business sectors (by SIC code) which are likely to be significantly affected by the implementation of the regulation

- Business size – some acknowledgement was given to the differing effects the regulations might have on firms of various sizes but this was limited to a distinction between large and small firms.
20. The above segmentations are relatively broad-brush and it is possible that value could have been added to the assessments by a focus on segments where, a priori, there is a high probability for potentially significant impacts. In other words, risk assessment might suggest that certain sectors or other market segments should be given particular attention.
 21. The assessment of the WEEE Directive acknowledged the potential effect of the regulation by business size but did not consider entry barriers and threshold effects. This would have added value to an assessment of a regulation that is based on producer responsibility model where the effects on competition might have been expected to be particularly important.
 22. There was little recognition given to the potential spatial effects with regard to the WEEE Directive where reliance was placed on the existing collection infrastructure for household waste and where it might, possibly, have differential effects on the civic amenity functions of peripheral rural areas as compared to urban areas.
 23. Although it may only be possible to gain rough cost/benefit estimates of segmentation effects through consultations/market reviews at the ex-ante stage, it is important to identify and attempt to quantify these effects as they will act as triggers for the types of monitoring required and for ex-post review.
 24. Indirect effects may be more easily quantified at the ex-post stage and hence if found to be significant, these segmentation possibilities can be followed up with more focused surveys/consultations in order to assess the impact of the regulation. See next section for a discussion of analytical methods that are currently used in the impact assessments and their potential within segmentation.

Appropriate Analytical Methods

25. The following grid illustrates the use of current tools/methods in both the RIA process of the sample regulations and their limitations. It also expands this analysis further by suggesting potential enhancements of the existing tools/methods with a view to creating a more integrated approach and to include the concepts of cumulative and interactive impacts.

Sample Environmental Regulations: Assessment of Analytical Methods

(A) Tools/methods currently used in the individuals RIAs	(B) Potential for enhancement of methods to assess interactive impacts	Ex-ante and/or ex-post tool/method	Advantages and limitations of (B)	
<p>Consultations</p>	<ul style="list-style-type: none"> Series of consultations as part of partial RIAs for both ELV and WEEE 	<ul style="list-style-type: none"> The consultative process can be extended to include evidence on potential interactive impacts with other regulations 	<ul style="list-style-type: none"> Ex-ante: consultations are usually conducted at the RIA stage <p>Ex-post: focus group consultations can be a cost-effective way of monitoring regulatory impact against objectives</p>	<ul style="list-style-type: none"> RIA analysts can ensure that consultation methods are harmonised with any ex-post method of monitoring and evaluating the impact of the Directive RIA analysts can use consultations as an intermediate method of measuring regulatory impact ex-post when large scale surveys are costly
<p>Small Firm Impact Test</p>	<ul style="list-style-type: none"> Method within segmentation to assess regulatory impact by firm size costs incurred by small firms were not expected to be disproportionate No current estimates of costs by firm size; does not attempt to quantify impact 	<ul style="list-style-type: none"> SFIT consultations can be tailored to assess interactive and threshold effects 	<ul style="list-style-type: none"> Ex-ante: SFIT can attempt to categorise costs and benefits of the regulation by firm size Ex-post: business surveys can incorporate proportionality of impact by firm size 	<ul style="list-style-type: none"> Difficulties associated with the firm's understanding of the concepts of Interactive Impacts and where these potentially may arise – addressed as departmental expertise built up. Categorisation of costs and benefits by firm size may be difficult at ex-ante stage and will need to be informed by feedback from ex-post methods

(A) Tools/methods currently used in the individuals RIAs	(B) Potential for enhancement of methods to assess interactive impacts	Ex-ante and/or ex-post tool/method	Advantages and limitations of (B)	
Competition Assessment	<ul style="list-style-type: none"> The test addresses the competitive nature of the market, threshold effects and barriers to entry. Implementation of the ELV and WEEE are not expected to have any significant impact on competition on the proposed business sectors. 	<ul style="list-style-type: none"> Where threshold effects on firm size are found to be potentially significant, these could be followed up through ex-ante consultation questions posed through a business size segmentation dis-aggregation (as suggested above). RIA can define a wider market for ELV once interactive impacts are taken into account and assess competition accordingly 	<ul style="list-style-type: none"> Ex-ante: follow up “yes” potential effects through consultation process and the information could act as a set of triggers for the types of monitoring required and hence further investigation at the ex-post stage. Ex-post: follow up “yes” potential effects through a survey process or market studies 	<ul style="list-style-type: none"> This process will lead to a more robust testing of competition effects. Further analysis of “yes” answers may lead to a more complicated RIA process. However, if questions are incorporated into the consultation exercises, they could merely be a small addition to this tool.
Analysis of Costs and Benefits	<p>For ELV</p> <ul style="list-style-type: none"> Identifies areas where benefits could occur due to the Directive by each statutory instrument Identifies costs under each statutory instrument Risk Assessment highlighting reduction of risks on human health and environment 	<ul style="list-style-type: none"> Economic rather than financial analysis of costs and benefits including indirect effects Integration between segmentation analysis and cost-benefit analysis can be quantified where possible- in sectors, types of firms or spatial areas where interactive impacts could be disproportionate 	<ul style="list-style-type: none"> Ex ante – identification of interactions of interactions at consultation phase may be introduced in analysis of costs Monitoring – monitoring surveys of producers can collect data on additional administrative and implementation costs due to Directive 	<ul style="list-style-type: none"> Benefits may still be difficult to quantify Monitoring and other data collection exercises may be costly to implement for both regulators and business Ex-post – estimation of costs and benefits may become easier ex post

(A) Tools/methods currently used in the individuals RIAs	(B) Potential for enhancement of methods to assess interactive impacts	Ex-ante and/or ex-post tool/method	Advantages and limitations of (B)
<p>For WEEE</p> <ul style="list-style-type: none"> • Estimation of implementation costs by different scenarios • Calculates impact of WEEE on current UK situation against various environmental outputs • Risk assessment highlighting where reduction of risks can take place due to WEEE 			

ANNEX E: Sample of Employment Regulations

The sampled regulations

1. The employment regulations selected for review were the 2001 Improvements to Statutory Maternity Pay, the 2002 Employment Act on maternity leave (and paternity and adoption leave and pay), the Part-time Workers (prevention of less favourable treatment) regulations, and the Protection of Pregnant Women and Women who have recently given birth

2001 Improvements to Statutory Maternity Pay

2. In December 2000, the Government published the Green Paper Work and Parents: Competitiveness and Choice, which discussed options for providing greater support for working parents and their employers. At a very early stage in the consultation process it became clear that maternity pay should be improved and extended, resulting in the following 2001 Budget announcements.
 - That Statutory maternity Pay (SMP) paid by employers to employees during Ordinary Maternity Leave (OML) when average weekly earnings are at or above Lower Earnings Limit is to be increased to £100 week (or 90% of the women's average weekly earnings – whichever is lower)
 - That Maternity Allowance – Paid by the Department for Work and Pensions (DWP) via the Benefits Agency is also to be increased to £100 week (or 90% of the women's average weekly earnings – whichever is lower)
 - That SMP and MA payment periods will be increased from 18 to 26 weeks
 - That the minimum period of notice a women is required to give her employer of the start of her maternity pay period is to be increased from 21 to 28 days. This is to align with minimum period of notice required before OML and Additional Maternity Leave (AML).
 - A woman's entitlement to SMP at the 15th week before the expected week of confinement (EWC) is to be safeguarded regardless of employment termination for whatever reason after this point.

Employment Act 2002 regulations on maternity leave (and paternity and adoption leave and pay)

3. The fundamental driving force behind the 2002 Employment Act was to simplify maternity leave arrangements in response to widespread recognition through the Government's

consultation exercise that they were overly complex for employers and employees to understand, comply with and subsequently plan for. This involved the following changes

- An increase in OML, entitled to all employees regardless of length of service, from 18 to 26 weeks
- An increase in AML, usually unpaid and lasting between 11 and 22 weeks depending on when OML commenced, to a set 26 weeks and commencing immediately after OML

The part-time workers (prevention of less favourable treatment) regulations

4. As stated in the respective RIA⁴⁹ ‘The Government wishes to promote a flexible labour market in which employers and workers work in partnership. This needs to be underpinned by a framework of employment rights that facilitates a diversity of employment patterns, such as part time work, that suit the needs of employers and individuals’. These regulations, therefore, give effect to the European Council Directive 97/81/EC, and are intended to ensure that:

- part time workers have a right not to be subjected to any detriment from working part time;
- part time workers can seek redress for dismissal/redundancy on the grounds that the worker worked part time;
- part time workers have the right to request a written statement of reasons for less favourable treatment.

The protection of pregnant women and women who have recently given birth

5. Falling within the Management of Health and Safety at Work (MHSW) Regulations 1992, this regulation was introduced to give effect to the European Economic Community Directive 92/85/EEC. Its key implications being:

- the requirement of employers to undertake a risk assessment of female employees of child-bearing age, in respect of exposure to specified agents, processes and working conditions;
- to adjust the working conditions of workers identified at risk; and
- to provide pregnant women and women who have recently given birth the opportunity to work days instead of nights at no loss of income.

⁴⁹ The part time workers (prevention of less favourable treatment) regulations, regulation impact assessment

Integration between ex ante and ex post assessment

6. The sample regulations have all displayed elements of an integrated approach to regulatory assessment. RIA guidance demands extensive consultations with prospective stakeholders that may be affected by a proposed regulation and practitioners are required to consider existing regulations that could be affected. The approach proposed by RIU, however, fails to provide an framework which assesses cumulative or interacting impacts, or a process from which to effectively monitor and evaluate the regulations throughout implementation.
7. The rationale for intervention was not cited in either maternity regulation RIA. However, this can partly be explained by the fact that extensive maternity regulations are already in place, thus reducing the requirement to set out their rationale. Moreover, both maternity regulations, which originated for the aforementioned Green Paper Work and Parents: Competitiveness and Choice have five clear objectives that have implicit linkages with market failure:
 - Keeping women's skills and knowledge in the economy and maintaining their attachment to the labour market even when they are not working outside the home
 - Maximising the contribution that working parents are able to make to their employers
 - Safeguarding the health and welfare of the mother and child before and after birth
 - Improving the quality of family life
 - "Thinking small first" in the design of solution, to simplify systems so that everyone understands their rights and responsibilities, and introduces any changes in the best way for all.
8. Although no specific logic chain was specified in either of the maternity regulations, these objectives have clearly influenced their design which, in turn, also feeds through to the estimated costs and benefits. However, where the logic chain appears to fail is at monitoring and evaluations stages. The RIA for the simplification of maternity regulations state that the DWP, Inland Revenue and DTI will monitor information in take up rates of maternity pay and leave, whilst the DTI will continue informal discussions with family groups and employer representatives to qualitatively assess the new measures. This, therefore, gives no indication of how the specific costs and benefits estimated by the RIA are to be monitored or assessed. This is reflected in the two surveys which have been commissioned by the DTI to assess the effects of work life balance regulations on employers and employees. Indeed, when assessing impacts the surveys did not attempt to assess the impacts of the individual regulations that are supposed to be improving work life balance making it very difficult to attribute positive or negative change to a particular regulation.
9. With respect to the part time workers regulations, and as previously discussed, the regulations aimed to give effect to the European Council Directive 97/81/EC, which identified two general purposes:

- To provide for the removal of discrimination against part time workers to improve the quality of part time work
 - To facilitate the development of part time work on a voluntary basis and to contribute to the flexible organisation of working time in a manner which takes into account the needs of employers and workers
10. As set out in paragraph 1.3, the regulations propose three measures which will address the EC Directive and satisfy the economic rationale for a regulated flexible labour market. The RIA uses seven measures to assess the costs and benefits of the regulation:
- Pay benefits/costs by number and amount per year
 - Non-wage benefits/costs entitlements by number and amount per year
 - Gender Impact
 - Estimated Compliance costs
 - Costs for the typical employer
 - Other costs – enforcement (including the right to receive a written statement of reasons for unfavourable treatment)
 - Additional not quantified effects
11. Whilst comprehensive, and with the exception of costs associated with the right to receive a written statement of reasons for unfavourable treatment, these costs and benefits only implicitly relate to the three regulations or the purposes of the EC Directive. Moreover, with practically no indication of the monitoring and evaluation processes that will be put in place to measure the outputs and outcomes of these costs and benefits, evidence of a logic chain is only partial.
12. Finally, with respect to the protection of pregnant women and women who have recently given birth, neither objectives nor monitoring and evaluation procedures are cited. This is understandable given that the RIA (or costings as it is called) was compiled in 1993, predating the introduction of RIAs.
13. Through adopting a more integrated approach a number of potential improvements could have occurred. Firstly, this could aid improved alignment between the rationale for intervention, objectives, estimated costs and benefits, and inform the design of appropriate monitoring and evaluative processes and techniques. In addition, however, many of the issues discussed later in this review such as improved and focused segmentation and early identification of potentially important interacting impacts could also have been uncovered. A systematic logic chain would link the economic, social and/or environmental conditions that stimulated the regulation with its aims and objectives, processes and costs of implementation, and outputs, outcomes and eventual impacts. This process would also inform the monitoring and evaluation processes required to measure impact, as well as the nature of consultations with

stakeholders and other divisions within Departments whose regulations may be affected at different levels or points in time.

Analytical Concepts

Interactive impacts

14. All of the regulations exhibited some degree of recognition of interacting impacts of regulation.
15. Firstly, by setting both Ordinary Maternity Leave and Additional Maternity Leave at 26 weeks, extending notification periods and harmonising notification dates required for Statutory Maternity Pay and Maternity Allowance qualification, the maternity RIA provides evidence of recognition of interactions between the regulations themselves. For example, the assessment of the extension to Ordinary Maternity Leave (OML) and the improvement to Additional Maternity Leave (AML) took account of the combination of these changes with the earlier SMP and MA rate increases. The significance of this is that, had the assessment of the OML and AML not taken account of this interaction, it could well have significantly under-estimated the benefits which were substantial - related to the output of more mothers remaining in employment with recruitment and training savings for employers estimated as being up to £39million/year. This is recognition that the different elements of the 2002 regulations and elements of the 2001 maternity regulations will interact in such a way that will, in this case, have the outcome of increased women labour retention.
16. Evidence of consideration of interaction between regulatory implementation and policy costs can be found with respect to the regulation covering protection of pregnant women and women who have recently given birth. In considering the costs associated with risk assessment the costings (RIA equivalent pre 1998)⁵⁰ states ‘some aspects of this provision including those related to lifting are covered by the EC Directive on Manual Handling’. In addition the assessment states that ‘the costs of adjusting the working conditions of women exposed to agents should be minimal. This is because the risks are already addressed by existing regulations’. Whilst, therefore, similarly to the maternity regulations, basic assumptions are made surrounding the additional costs of the new regulation, this does provide evidence of recognition of existing regulations and the need to consider how, on a implementation and policy cost level, a proposed regulation will affect/be subsumed by current processes.
17. Again, similar observations of interaction between regulations can be made from the part-time workers (prevention of less favourable treatment) regulations where the RIA emphasises that some of the benefits (increases in average weekly gross pay and non-wage benefit entitlements) may be an over estimation due to the simultaneous introduction of the National

⁵⁰ Health and Safety Articles of the Directive on the protection of pregnant women and women who have recently given birth: Costings

Minimum Wage and the Working Time Regulations which have reduced discrimination between full and part-time workers. It is stated that this effect cannot be quantified.

18. The RIA acknowledges potential benefits for full time women workers returning to work part time from maternity leave but does not accompany this with any measurement of benefits.
19. What can be observed, therefore, is reflective of the RIU Guidance of better regulatory impact assessment, namely that interacting regulations are given consideration, but little more. Consequently, with the exception of more easily calculable implementation and policy costs, interaction between regulations are only tentatively considered, most being defined as costs or benefits that cannot be quantified. In addition, apart from the recognition within maternity leave regulations and the distinction between one off costs and costs which will be recurring over time, (which in the pregnant women and women who have recently given birth regulation includes an estimate of Net Present Value) little attention is given to cumulative impact or its estimation.
20. The degree to which the respective RIAs give consideration to the existing regulatory regime varied significantly. As already discussed, the driving force behind the 2002 maternity simplification regulations was the recognition that existing maternity legislation needed simplification and harmonisation, thus providing evidence that consideration was given to the existing regime. In the case of the part time regulations, evidence was also found of recognition of regulations of the same theme, namely the National Minimum Wage and the Working Time Directive. Finally, the Directive on pregnant women and women who have recently given birth, gave recognition to other related regulations (such as the Directive on Manual Handling) that would subsume much of the risk assessment costs.
21. For illustrative purposes, three examples of how these regulations could interact with each other and cause additional costs and benefits are given below:
 - Employers offering pregnant women or women who have recently given birth the opportunity to work days instead of nights incur two main costs. For organisations with a large pool of labour the costs of transferring staff to day work will take the form of administrative work rearranging rotas and making up the normal earnings of the women concerned – this cost being transferred from employers to workers. For organisations with a smaller pool of labour, costs will involve additional administrative work in the recruiting of temporary replacement staff plus the financial costs of paying the individuals who have to be taken off night work their normal earnings. One of the key assumptions that the RIA makes when calculating these costs is that pregnant workers who do not take maternity leave sooner than 11 weeks before they give birth are able to avoid night work for up to an additional 5 weeks if they obtain a medical certificate. ***Therefore, with the new maternity regulations giving women longer OML and AML, there is a distinct possibility that many pregnant women or women that have recently given birth would, to a greater extent at least, be able to continue their night work duties, thus reducing the compliance or policy cost for organisations.***

- The only monetised benefit cited in the maternity simplification RIA was that of saved recruitment and training costs to businesses derived through more women retaining their employment status with their employer and returning to work after OML and/or AML. However, when this regulation is considered in conjunction with the part time workers regulations, this benefit becomes less clear. Due to anti-discriminatory measures of the part time regulations, more women may be encouraged to retain their employment status and return to work part time. In addition, women may be encouraged to take more of their AML in the knowledge that they can return to work part-time without discrimination. This could have the following three effects:
 - *An increase in the benefits enjoyed by firms through even greater labour retention*
 - *An increase in costs associated with restructuring and recruitment as more women who had previously held full time positions wish to return in a part time capacity.*
 - *An increase in regulatory compliance costs of covering for longer absences as more women take full AML*
- Finally, on a more simplistic level, the one-off costs of changing employment protection statements and policy in light of the 2002 maternity regulations, could be combined with similar costs which would be incurred through the simultaneous introduction of Paternity and Adoption leave regulations. ***This would result in the reduction of implementation costs for all three regulations.***

Segmentation Analysis

22. There are several types of segmentation that can be useful in identifying areas where the impacts (costs and benefits) of a particular regulation or set of regulations deserve closer attention.
23. Segmentation has occurred to varied extents in all the RIAs. However, where sectoral assessments of potential impacts were carried out, the analysis tends to be light-touch and insufficiently focused on assessing potentially disproportionate impacts. For example, the RIA for 2001 Improvements to Statutory Maternity Pay (SMP) Regulation identifies the proportion of all female 16-30 and 30-45 year olds working within broad sectors of the economy. However, the analysis did not reveal the proportion that this represented in the total employment of each sector. Hence, it showed that the ‘manufacturing’ and the ‘health and social work’ sectors each employed 9% of all employed females aged between 16 and 30s. But, since they represent a higher proportion of total employment in health and social work than in manufacturing, the former sector is likely to be disproportionately affected by a regulation targeted on this employee group. An analysis of this kind at lower levels of disaggregation - using 3 or 4 digit SIC codes for example - and cross referencing this analysis

by firm size could have provided deeper insights into the potential significance of the regulation for specific industries and businesses.

24. However there are various practical steps that could be taken to build upon the RIA segmentation so as provide insight into areas where costs and benefits may be highly concentrated or experience high levels of interacting impacts. For example, in investigating potential interaction between extended OML and AML and the cost of offering alternative day work or paid leave to night workers who are either pregnant women or have recently given birth, segmentation could be used to identify areas of high interaction such as female hospital based nurses and doctors of child bearing age.
25. By developing spatial segmentation of areas falling within the lowest Index of Multiple Deprivation (IMD) Quartile, this could uncover high concentrations of low paid, insecure part time employment, hence indicating that these areas may benefit disproportionately from the new legislation. Indeed, the effects of part time regulations, the Working Time Directive, the National Minimum Wage and maternity regulations could stimulate an increase in the quality of life of the UK's most deprived wards which, over time, could have significant additional indirect benefits such as reductions in social exclusion, education attainment, crime reduction and improvements in health.
26. It is critically important to emphasise that any information obtained from ex-post analysis must feed back into both the ex-ante process and into an accessible resource base that can be accessed by other regulatory Departments. In the long term, as evidence of interactions between regulations develops and improves in quality, assumptions about other sectors of activity – such as degree of market power – can be made ex-ante. As part of a more integrated approach, this will then inform both the monitoring and evaluation processes necessary to measure their presence.

Appropriate Analytical Methods

27. The following grid illustrates the use of current tools/methods in both the RIA process of the sample regulations and their limitations. It also expands this analysis further by suggesting potential enhancements of the existing tools/methods with a view to creating a more integrated approach and to include the concepts of cumulative and interactive impacts.

Sample Employment Regulations: Assessment of Analytical Methods

Individual RIA	(A) Tools/methods currently used in the individuals RIAs		(B) Potential for enhancement of current tools/methods to assess interactive impacts	Ex-ante and/or ex-post tool/method	Advantages and limitations of (B)
2001 Improvements to SMP	Consultations	<ul style="list-style-type: none"> 2001 consultation process in response to the 2000 Green Paper Work and Parents: Competitiveness and Choice 	<ul style="list-style-type: none"> Consultation process could be targeted at those likely to be affected disproportionately – identified through segmentation (see below) 	<ul style="list-style-type: none"> Could be used at both ex-ante and ex-post stages and informed by segmentation analysis and Small Firms Impact Test 	<ul style="list-style-type: none"> Ex-post - would need to be subsumed into the Work Life Balance surveys currently being undertaken by the DTI to guard against survey burnout of businesses. This would need to be done in such a way that allows findings to be 'unpacked' to assess the validity or otherwise of individual ex-ante regulatory estimates.
	Segmentation	<ul style="list-style-type: none"> Annual Business Inquiry (ABI) Industry Sections by Number and % of 16-30 year old and 30-45 year old female employees in the UK 	<ul style="list-style-type: none"> Investigate industry sections in relation to women in the given age brackets as a proportion of the workforce in that industry. This would then give an indication of sectors where impact is likely to be high 	<ul style="list-style-type: none"> Ex-ante device which would provide focus for a full cost effectiveness/CBA appraisal to be conducted Would also provide focus for monitoring and evaluation surveys ex-post 	<ul style="list-style-type: none"> Would provide insight into sectors of activity where impact is likely to be concentrated, providing an indication of where interactive effects may be significant

Individual RIA	(A) Tools/methods currently used in the individuals RIAs		(B) Potential for enhancement of current tools/methods to assess interactive impacts	Ex-ante and/or ex-post tool/method	Advantages and limitations of (B)
			<ul style="list-style-type: none"> • Break down ABI industries further to 3 or 4 digit SICs to allow better insight into the types of businesses or third sector organisations that are likely to be affected. This could be cross sectioned with business size • Conduct trend analysis of sectors with changing gender concentration to understand potential impact on specific sectors as a result of regulation • Conduct trend analysis for women by Full Time and Part Time Staff 		<ul style="list-style-type: none"> • Would provide insight into any shift in employment patterns of women as a result of an extension in maternity leave and hence identify any interactions in costs and benefits with part-time regulations • Practitioners would need to aware of changing trends in the concentration of women of child bearing age working in different economic sectors
2001 Improvements to SMP (cont)	Small Firms Impact Test (SFIT)	<ul style="list-style-type: none"> ▪ Minimal SFIT, concluding that costs to small firms would be minimal 	(In addition to above) <ul style="list-style-type: none"> • Split firms by more categories so that the effects on medium sized firms can be assessed 	<ul style="list-style-type: none"> • Ex-ante assessment of potential firm growth threshold effects – informed by consultations 	<ul style="list-style-type: none"> • Would provide insight into sectors of activity where impact is likely to be concentrated, providing an

Individual RIA	(A) Tools/methods currently used in the individuals RIAs		(B) Potential for enhancement of current tools/methods to assess interactive impacts	Ex-ante and/or ex-post tool/method	Advantages and limitations of (B)
				<ul style="list-style-type: none"> • Ex-post – Market assessment study/research targeted at understanding whether extending SMP encourages discriminatory behaviour by SMEs towards economically active women 	<p>indication of where interactive effects may be significant</p> <ul style="list-style-type: none"> • Would provide insight into barriers to entry for economically active women, in the labour market • Practitioners would need to aware of changing trends in the concentration of women of child bearing age working in different economic sectors
	Cost Benefit Analysis	<ul style="list-style-type: none"> ▪ Used straight forward cost assumptions to measure the costs and benefits that would be incurred to women, firms (implementation and compliance) ,and the exchequer 	<ul style="list-style-type: none"> • Economic rather than financial analysis of costs and benefits including indirect effects can be measured • Integration between segmentation analysis and cost benefit analysis to quantify disproportionate impact- could be undertaken in sectors or types of firms 	<ul style="list-style-type: none"> • Ex-ante – Identification of interactions at consultation phase may be introduced in analysis of costs • Ex – post surveys can collect data on specific costs and validate ex-ante estimates 	<ul style="list-style-type: none"> • Would provide insight into sectors of activity where impact is likely to be concentrated, providing an indication of where interactive effects may be significant

Individual RIA	(A) Tools/methods currently used in the individuals RIAs		(B) Potential for enhancement of current tools/methods to assess interactive impacts	Ex-ante and/or ex-post tool/method	Advantages and limitations of (B)
					<ul style="list-style-type: none"> Practitioners would need to aware of changing trends in the concentration of women of child bearing age working in different economic sectors Practitioners would need be trained or have access to an economist to undertake the more detailed CBA
2002 Maternity simplification regulations	Consultation	<ul style="list-style-type: none"> In addition to the above consultation, further consultation was undertaken on three subsequent framework documents 	<ul style="list-style-type: none"> Consultation process could be targeted at those likely to be affected disproportionately – identified through segmentation (see below) 	<ul style="list-style-type: none"> Could be used at both ex-ante and ex-post stages and informed by segmentation analysis and Small Firms Impact Test 	<ul style="list-style-type: none"> As for 2001 SMP consultations (above)
	Small Firms Impact Test (SFIT)	Small firms (under 25 employees) and larger firm segmentation	<ul style="list-style-type: none"> Use segmentation analysis for 2001 Improvement to SMP regulations (above) to investigate areas where potential disproportionate impact could occur 	<ul style="list-style-type: none"> Ex-ante : Analysis could provide focus for a more detailed cost-benefit appraisal of small firms operating in sectors likely to be disproportionately affected – including firm growth threshold effects 	<ul style="list-style-type: none"> Would provide insight into sectors of activity where impact is likely to be concentrated, providing an indication of where interactive effects may be significant

Individual RIA	(A) Tools/methods currently used in the individuals RIAs		(B) Potential for enhancement of current tools/methods to assess interactive impacts	Ex-ante and/or ex-post tool/method	Advantages and limitations of (B)
			<ul style="list-style-type: none"> Split firms by more categories so that the effects on medium sized firms can be assessed 	<ul style="list-style-type: none"> Could be used to establish threshold effects for different firms operating in different sectors Ex-post – Market assessment study/research to understand changing incentives for SMEs to employ women due to simplification of regulations Ex-post, could provide focus for monitoring and evaluation surveys to test validity of ex-ante estimations 	<ul style="list-style-type: none"> Would provide insight into extent of potential change in barriers to entry for women in small and medium size firms Practitioners would need to aware of changing trends in the concentration of women of child bearing age working in different economic sectors Practitioners would need be trained or have access to an economist to undertake the more detailed CBA
	CBA	<ul style="list-style-type: none"> Considers the interactive policy costs associated with the basket of maternity regulations 	<ul style="list-style-type: none"> As above 	<ul style="list-style-type: none"> As above 	<ul style="list-style-type: none"> As above

Individual RIA	(A) Tools/methods currently used in the individuals RIAs		(B) Potential for enhancement of current tools/methods to assess interactive impacts	Ex-ante and/or ex-post tool/method	Advantages and limitations of (B)
	<ul style="list-style-type: none"> Ex-post Work Life Balance Surveys: Employer Survey 	<ul style="list-style-type: none"> Covers employers' provision of maternity, parental and paternity leave arrangements and attitudes to and impact of work-life balance 	<ul style="list-style-type: none"> Targeted questioning in surveys to identify or 'unpack' the effects of individual regulations 	<ul style="list-style-type: none"> Ex-post: Surveys can be used both ex-ante and ex-post but cost information may only be accurately available ex-post 	<ul style="list-style-type: none"> Surveys are resource intensive and rely on subjective data Survey results may be affected by 'regulatory bias' when surveyed firms are those most affected by regulation
		<ul style="list-style-type: none"> Segmentation used as analyses carried out by firm size, public versus private sector and by individual sector and gender density 	<ul style="list-style-type: none"> More information on costs and quantifiable benefits from surveyed firms and adoption of adding up approach to estimate cumulative impact of those regulations that come under Work Life Balance 	<ul style="list-style-type: none"> Monitoring systems can be in place for data collection on costs and quantifiable benefits; this will ensure simpler evaluation of impact Ex-ante consultations can be tailored to be consistent with ex-post surveys to ensure integration across the policy cycle 	<ul style="list-style-type: none"> Linkages with RIA process will need to be strengthened Enhanced large scale surveys will need to be carried out at specific intervals to avoid incurring huge costs to regulator and business
	<ul style="list-style-type: none"> Ex-post Work Life Balance Surveys: Employee Surveys 	<ul style="list-style-type: none"> Aimed at gauging employees' baseline levels of awareness of rights to take leave, including rights to parental leave, flexible working and rights for part-time workers as well as entitlements 	<ul style="list-style-type: none"> An enhanced survey that is aimed at identifying or 'unpacking' effect of individual regulations and linking results with employer surveys 	<ul style="list-style-type: none"> Ex-ante – segmentation analysis during RIA stage can identify or highlight potential second round effects on employees 	<ul style="list-style-type: none"> Follow on surveys may be required to measure change against baseline and second round effects over time

Individual RIA	(A) Tools/methods currently used in the individuals RIAs		(B) Potential for enhancement of current tools/methods to assess interactive impacts	Ex-ante and/or ex-post tool/method	Advantages and limitations of (B)
				<ul style="list-style-type: none"> Ex-post – this survey is essentially ex-post and can be potentially used to identify interactions 	<ul style="list-style-type: none"> Surveys may need to be conducted at specific intervals to reduce costs for regulator Employer survey outcomes can be analysed alongside employee survey outcomes to understand where and how incidence of regulation falls
Part-time regulations	Consultation	<ul style="list-style-type: none"> No consultation process other than the research (cited below) was referred to in the RIA – although assumption is that an exercise was undertaken 	<ul style="list-style-type: none"> Consultations could be used to complement/ add value to research (see below) through providing qualitative evidence. 	<ul style="list-style-type: none"> Ex-ante tool for providing qualitative evidence to support research (see below) 	<ul style="list-style-type: none"> Positive means of engaging stakeholders and early identification of areas of contention and/or potential inefficiencies in either implementation or compliance.
	Research	<ul style="list-style-type: none"> DTI commissioned British Market Research Bureau (BMRB) to undertake a survey investigating differences in terms and conditions between part-time and comparable full time employees in the same workplace, looking at pay and non-wage benefits 	<ul style="list-style-type: none"> Develop the scope of the research to focus on identified segments (see below) and provide quantitative sample evidence. 	<ul style="list-style-type: none"> Focused Survey directed by segmentation analysis. (see below) 	<ul style="list-style-type: none"> Independent findings will add credibility Provide a valuable tool for other related regulations, especially if it were able to provide an evidence base for interactive impacts (see below)

Individual RIA	(A) Tools/methods currently used in the individuals RIAs		(B) Potential for enhancement of current tools/methods to assess interactive impacts	Ex-ante and/or ex-post tool/method	Advantages and limitations of (B)
Part-time regulations	Segmentation	Single digit SIC by: a) % of part time workers in sector: b) % of part time workers with full time comparators c) whether employers in sector offer benefits d) whether employers in the sector discriminate against part time workers	<ul style="list-style-type: none"> Apply to three or four digit SICs to investigate sectors where impact is likely to be most prevalent (i.e. tourism and hospitality related SICs) Using the Index of Multiple Deprivation (IMD), cross reference analysis with resident part time employment patterns of those living in the bottom quartile of deprived areas, thus uncovering areas where interactive impact of employment regulations is likely to be significant 	<ul style="list-style-type: none"> Ex-ante could be used to establish threshold effects for different firms operating in different sectors Economic rather than financial analysis with specific emphasis on quantifying indirect benefits such as improvements in health, reductions in crime and increases in educational attainment Ex-ante and ex-post surveys similar to the current MORI Household survey undertaken for the Neighbourhood Renewal Unit (ODPM) could be adopted Ex-post would provide focus for detailed monitoring and evaluation of sample areas, types of firms and sectors 	<ul style="list-style-type: none"> Would allow for the currently unsubstantiated wider benefits of part-time and other employment regulations (including maternity, National Minimum Wage, Working Time Directive etc) to be taken into account Complexities in analysis, and in particular the longitudinal nature of the monitoring and evaluation surveys needed for measuring the benefits of regulations in deprived wards.

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Part-time regulations	SFIT	<ul style="list-style-type: none"> Uses 1998 LFS data and a BMRB survey to argue that non-wage benefits differentials are far less prevalent in small firms (under 25 employees) 	<ul style="list-style-type: none"> Assess small firms by three or four SICs to uncover sectors where pay discrimination and non-wage benefits legislation could affect small firms disproportionately Split firms by more categories so that the effects on medium sized firms can be assessed 	<ul style="list-style-type: none"> Ex-ante would use Annual Business Inquiry (ABI) statistics to provide focus for the (above) research and consultations Ex-post could to form the basis of survey work (see above) 	<ul style="list-style-type: none"> Ex-ante could provide focus for a more detailed cost benefits appraisal of small firms operating in sectors likely to be disproportionately affected
	CBA	<ul style="list-style-type: none"> Assesses costs and benefits using evidence from the BMRB survey and LFS data 	<ul style="list-style-type: none"> Enhanced CBA informed by above 	<ul style="list-style-type: none"> As above 	<ul style="list-style-type: none"> As above
H&S regulations for pregnant women and women returning to work after giving birth	Segmentation	<ul style="list-style-type: none"> Identifies sectors where costs of changing working conditions of pregnant women are exposed to specific agents 	<ul style="list-style-type: none"> Identify areas where night work provision may be a significant issue (e.g. nursing) through analysis of three or four digit SIC's by 16-45 year old female employees 	<ul style="list-style-type: none"> Ex-ante could be used to make assumptions regarding the costs and benefits of interactions between this regulation and maternity regulations. 	<ul style="list-style-type: none"> Could provide valuable information regarding the impact of regulatory interactions within specific sectors.

Individual RIA	(A) Tools/methods currently used in the individuals RIAs		(B) Potential for enhancement of current tools/methods to assess interactive impacts	Ex-ante and/or ex-post tool/method	Advantages and limitations of (B)
			<ul style="list-style-type: none"> • Cross reference with maternity segmentation analysis to identify areas where interactions between the regulations are probable.(see maternity regulations) 	<ul style="list-style-type: none"> • Ex-post would provide focus for survey work, possibly integrated into the Work Life Balance DTI survey. 	<ul style="list-style-type: none"> • Could be integrated into a consultation process to provide evidence for ex-ex-ante assessment
	CBA	<ul style="list-style-type: none"> • Robust and comprehensive cost assessment, taking into account interaction with existing regulations and calculating an NPV over 10 years 	<ul style="list-style-type: none"> • Use segmentation analysis (above) to provide basis for assumptions • Acknowledging interactions with maternity regulations, estimate cost savings by firms as a result of women returning to work later rather than sooner after giving birth 	<ul style="list-style-type: none"> • As above 	<ul style="list-style-type: none"> • As above