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Information for Better Markets
**Information for
markets and society**

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This report forms part of the ICAEW's *Information for Better Markets* campaign. The ICAEW believes that the information available to markets could be significantly improved. To make real progress in this direction, the ICAEW is exploring key underlying issues in business reporting by preparing a series of reports, hosting related debates involving interested parties, commissioning follow-up research, and making properly grounded and practical proposals.

This report, *Information for markets and society*, is the fifth in the series; details of earlier reports are given on the inside back cover. If you are interested in following the progress of the campaign or in details of future reports and consultations, please visit the Institute's website at www.icaew.co.uk/bettermarkets. Anybody wishing to contribute to the ICAEW's work is particularly welcome. Please register via the Institute's website or email bettermarkets@icaew.co.uk.

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Information for markets and society

An initiative from the Institute of
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Information for markets and society

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Executive summary

Information is central to market activities and to what is referred to in this report as *public policy* – that is, the body of policies that various members of society and organisations within it pursue in order to promote what they see as the public good. Information is central to the formation, implementation, monitoring and development of public policy, but too often is treated as a mere bolt-on or afterthought. This can lead to information failure, a common cause of serious problems in the delivery and effectiveness of public policy. It is also possible that many problems of regulatory overload, especially perceptions of red tape, are attributable to poorly designed information requirements, which impose excessive systems costs on the regulated.

Chartered Accountants prepare information, design systems to produce it, provide assurance on it, analyse it, interpret it, and make and implement decisions based on it. This gives them a wide range of experience, which goes far beyond accounting issues, of what works in practice and what does not. Drawing on that experience and on previous reports in the *Information for Better Markets* series, this report puts forward some ideas for discussion, particularly on how the quality of information needed to implement public policy could be improved, so as to increase the effectiveness of public policy design and delivery.

Using the Information for Better Markets Framework, public policy questions can be analysed into:

- **desired outcomes**;
- **market activities** that deliver (or fail to deliver) desired outcomes;
- the **mechanisms** that society uses to steer market activity towards the delivery of desired outcomes; and
- the **information** that underpins mechanisms, markets and desired outcomes.

There should be a continuous interaction between mechanisms, markets, and desired outcomes on the one hand and information on the other; all should evolve together.

This report puts forward four general principles for discussion. The principles are intended to minimise the incidence of information failure and to improve the delivery and effectiveness of public policy.

1. Information requirements should be designed as an integral part of public policy, not added as an afterthought.
2. Every public policy proposal should include an information plan.
3. Policy initiatives and related information requirements should be reviewed regularly in the light of feedback and experience.
4. The appropriateness of information for public policy purposes should be judged against the overriding criteria of fitness for purpose and cost-effectiveness, and against the recognised attributes of useful information.

The information plan for a public policy proposal should show that the following issues have been considered:

- what information flows are necessary for the policy to succeed;
- how the relevant information can be collected;
- how information quality can be achieved;
- how information will be communicated;
- how participants in the process are expected to respond to the information they receive; and
- how the information-related risks of the policy proposal will be addressed.

Information should always be fit for purpose and cost-effective. In deciding whether it meets these tests, regard should be had to the following recognised attributes of useful information. Information should be:

1. relevant
2. accurate
3. reliable
4. comparable
5. understandable
6. concise
7. timely
8. fair, and should
9. avoid perverse effects.

Comments would be welcomed on the analysis and principles presented for discussion in this report, with a view to their improvement and development.

Invitation to comment

This report:

- emphasises the importance of information at all stages in the public policy process;
- puts forward for discussion four principles for its successful use; and
- sets out for discussion attributes by which information should be judged.

In doing so, the report uses a simple model of the public policy process (the Information for Better Markets Framework), in which information is shown as underpinning and interacting with mechanisms, markets and desired outcomes. Examples of information failure in public policy are briefly described and assessed, and it is suggested that regulatory overload may often be attributable to poorly designed information systems and requirements. Several questions are identified where there would be benefits to be gained from either summaries of existing research findings or further research on specific issues.

The Institute of Chartered Accountants in England and Wales (ICAEW) would welcome comments on the analysis and principles set out in this report. Readers are therefore invited to comment on the following questions:

1. Do you agree with the four general principles for information and public policy? If not, how could the principles be improved?
 - (1) *Information requirements should be designed as an integral part of public policy, not added as an afterthought.*
 - (2) *Every public policy proposal should include an information plan.*
 - (3) *Policy initiatives and related information requirements should be reviewed regularly in the light of feedback and experience.*
 - (4) *The appropriateness of information for public policy purposes should be judged against the overriding criteria of fitness for purpose and cost-effectiveness, and against the recognised attributes of useful information.*
2. Do you agree that in applying fit-for-purpose and cost-effectiveness tests thought should be given to the list of attributes of useful information? How could the list of attributes be improved?

Information should be:

- (1) *relevant*
- (2) *accurate*
- (3) *reliable*
- (4) *comparable*
- (5) *understandable*
- (6) *concise*
- (7) *timely*

(8) *fair, and should*

(9) *avoid perverse effects.*

3. Can you point to successful instances of the integration of information requirements in public policy?
4. Could the Information for Better Markets Framework (Section 1.4) be used as an operational model in developing public policy on specific issues? Would you use it for this purpose? How could the model be improved?
5. Do you agree with the proposals for further research (Section 5.3)? If not, what issues would it be more helpful to research? Can you point to relevant research or offer answers to the questions posed?
6. Rather than focus on the information aspects of individual policy proposals, would it be more effective to address broader cultural and institutional issues for the effective production and use of information: for example, shared values, trust and education (Section 3.4)?

Responses should be sent to:

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The ICAEW would also welcome dialogue with organisations that have an interest in any of the issues addressed either by this report or by the *Information for Better Markets* campaign more generally, and it would be pleased to hear from them.

1. Information and public policy

1.1 Purpose of the report

Information is central to market activities and to what is referred to in this report as *public policy* – that is, the body of policies that various members of society and organisations within it pursue in order to promote the public good. Information is central to the formation, implementation, monitoring and development of public policy. Nobody imagines that it is possible to form sensible policies in the absence of accurate and relevant evidence, but the continuing role of information in implementation, monitoring, and development is too often overlooked or treated as a mere bolt-on or afterthought. Experience shows that this can lead to information failure, where the information critical to a policy's success is either missing, inaccurate, incomprehensible or leads to perverse consequences. In one way or another, information failure is a common cause of serious problems in the delivery and effectiveness of public policy.

Chartered Accountants prepare information, design systems to produce it, provide assurance on it, analyse it, interpret it, and make and implement decisions based on it. This gives them a wide range of experience, which goes far beyond accounting issues, of what works in practice and what does not. Drawing on that experience, and on previous reports in the *Information for Better Markets* series, this report:

- emphasises the importance of information at all stages of the public policy process;
- puts forward some ideas for discussion, particularly on how the quality of information needed to implement public policy could be improved, so as to increase the effectiveness of public policy design and delivery; and
- suggests some basic principles for information intended to serve the needs of both markets and society.

Information is a large topic, which plays a fundamental role in philosophy and theories of science, economics and communications, which are beyond the scope of this report. However, it is recognised that insights about information from a wide variety of disciplines might enhance or modify the analysis in this report. Contributions from different points of view would therefore be welcomed if they help to shed light on the role of information in public policy.

1.2 Information failure

Three examples of information failure from the public policy arena in the UK – Tax Credits, NHS waiting lists, and Self Assessment – will help to show both how widespread information failure is and how serious its effects can be. These examples are reviewed in Section 2.1 in the next chapter, but they show, amongst other things, how the effectiveness of policy can be damaged by:

- inaccurate information;
- inadequate understanding, both by those who implement policy and those who are on the receiving end of it, of what they are meant to be doing;
- inappropriate performance indicators; and
- lack of consideration of information requirements in policy planning.

The consequences of information failure in public policy range from the trivial to the fundamental, but they always tend to undermine and discredit the policy that the information is intended to serve.

The concepts of *market failure* and *regulatory failure* are both well known, but the analysis in this report suggests that the concept of *information failure* is also useful, certainly in the context of public policy and perhaps more widely.

1.3 Policy and information

The key point for discussion put forward in this report is that, if policy is to be effective, information considerations must be integral to every stage of the policy process – formation, implementation, monitoring, and development. Information should always be at the heart of public policy, and no policy should be regarded as credible or complete if it does not include an information plan. This should show that the following issues have been considered:

- what information flows are necessary for the policy to succeed;
- how the relevant information can be collected;
- how information quality can be achieved;
- how information will be communicated;
- how participants in the process are expected to respond to the information they receive; and
- how the information-related risks of the policy proposal will be addressed.

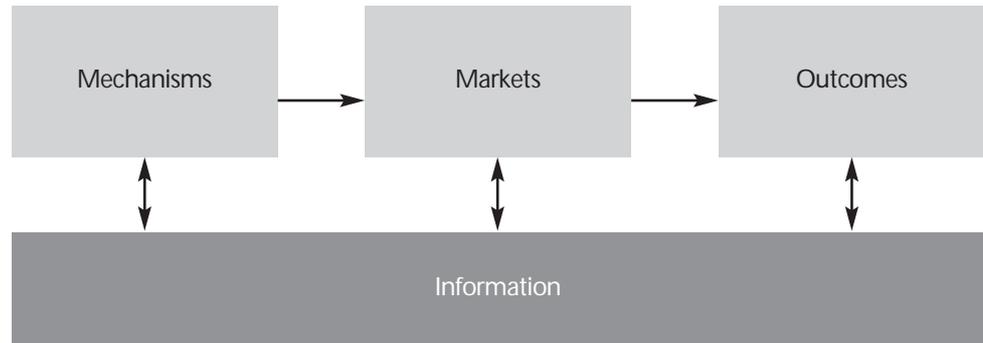
None of these ideas will come as a surprise to those involved in public policy or who are familiar with models of change management, and they may even be regarded as a statement of the obvious. But it is equally clear that these basics of information planning are often neglected.

The role of an information plan may be clearer if we look at how public policy works.

1.4 The Information for Better Markets Framework

The diagram on the next page – the Information for Better Markets Framework – provides a simple model for analysing how public policy works. As noted earlier, *public policy* means the policies that different members of society and organisations within it pursue in order to promote the public good. It is not the exclusive preserve of governments, but a pluralist range of activities engaged in by individuals, voluntary groups, businesses, and so on.

Figure 1: The Information for Better Markets Framework



Outcomes are the desired results of public policy, such as improving people’s health or education or national economic performance or protecting the environment or reducing crime. Information on outcomes shows how far they are being achieved, and should, where appropriate, lead to consideration of whether policies need to be changed so that they are more effective. Or it may indicate that the desired outcomes are unrealistic or need to be redefined.

At the other end of the model, **mechanisms** are the means that society employs to promote the outcomes that it desires. The word *mechanism* is not intended to give an impression of solidity and permanence. In practice, social mechanisms, at least in their details, are highly fluid and changeable. They may be laws and regulations or other forms of requirement, or various kinds of incentives and disincentives, or ways of persuading people to change their behaviour – something increasingly recognised as central to the success of public policy.

In every case, information is essential; people need information on what they are expected to do. If new laws are introduced, for example, people need to know what they have to do to comply with them. If people are expected to be providers of information, they need to know what they must provide and be trained or guided on how to provide it. Persuasion relies on information, so if people are to be persuaded to change their behaviour, that process too depends on information to make it work.

And those responsible for mechanisms need to know how they are working. Are they achieving the desired results? Are they having unintended consequences? Are they costing more or less than expected? Does experience show how they could be improved? Or that they should be abandoned? Mechanisms need to be constantly reassessed in the light of information on their costs and effectiveness.

In the model, the term **markets** is used to describe all the activities that lead to the achievement (or non-achievement) of desired outcomes. Such activities may be essentially self-interested, but, in Adam Smith’s famous phrase, the participant in markets ‘is led by an invisible hand to promote an end that was no part of his intention’ – one that ‘promotes the public interest’. Markets, simply by satisfying needs at the least cost, achieve many beneficial results without the involvement of public policy as a conscious process.

The information to which participants in markets respond is bewildering in its range and complexity; it could be whatever affects their decisions to buy or sell, to demand or provide. These concepts are being used in a very broad sense. Services that are free at the point of provision, for example, are still demanded and provided, and are subject to

complex information flows that affect *what* is demanded and provided. Poor information will lead to poor decisions by market participants, leading in turn either to failures of public policy or at least to less effective policy delivery.

Overall, the role of information is to help in specifying outcomes, designing mechanisms and guiding market activity, and then to provide feedback. In the light of feedback, mechanisms, market activity and outcomes change. And changes in these elements in the public policy process lead in turn to changes in information requirements. It is difficult to overstate the role of feedback and the importance of acting on it. There are often forces at work in public policy that encourage the burial of bad news. In *The Truth About Markets* John Kay gives the example of the UK government in the mid-1960s, which decided, unlike the rest of the world, to adopt Advanced Gas-Cooled Reactors (AGRs) to produce nuclear power. Although it is difficult to argue that this decision was anything other than a very costly mistake – Kay describes it as ‘probably the worst economic decision ever made by the government of a rich state’ – for several decades the evidence that it was a mistake was consistently ignored or suppressed. For information to be useful, it has to be received in an environment in which it can be acted on.

There is an unavoidable and entirely appropriate political element in the public policy process. In practice, those who make decisions on public policy (ultimately, society as a whole) have divergent beliefs on what outcomes are desirable, differing preferences for particular mechanisms or views on how far markets should be left alone to their own devices. The political aspects of public policy are obvious. However, the model of public policy described here is aimed at ensuring that the less obvious information aspects of public policy are not overlooked.

1.5 The UK government as an example

Existing government practices show a similar approach to that of the Information for Better Markets Framework. The UK government, for instance, has Public Service Agreements (PSAs) for its departments. These specify aims for each department, which are supported by objectives, which are in turn supported by performance targets (www.hm-treasury.gov.uk/performance/index.cfm). PSAs are not intended to provide comprehensive coverage of the activity of government departments, but focus on those areas where there is a perceived need for change.

The Department of Health’s aim, for example, set in 2004, is: ‘Transform the health and social care system so that it produces faster, fairer services that deliver better health and tackle health inequalities.’ This is supported by four objectives, one of which is: ‘Improve the health of the population. By 2010 increase life expectancy at birth in England to 78.6 years for men and to 82.5 years for women.’ The performance targets for this objective are:

‘1. Substantially reduce mortality rates by 2010:

- from heart disease and stroke and related diseases by at least 40% in people under 75, with at least a 40% reduction in the inequalities gap between the fifth of areas with the worst health and deprivation indicators and the population as a whole;
- from cancer by at least 20% in people under 75, with a reduction in the inequalities gap of at least 6% between the fifth of areas with the worst health and deprivation indicators and the population as a whole; and
- from suicide and undetermined injury by at least 20%.

- '2. Reduce health inequalities by 10% by 2010 as measured by infant mortality and life expectancy at birth.
- '3. Tackle the underlying determinants of ill health and health inequalities by:
 - reducing adult smoking rates to 21% or less by 2010, with a reduction in prevalence among routine and manual groups to 26% or less;
 - halting the year-on-year rise in obesity among children under 11 by 2010 in the context of a broader strategy to tackle obesity in the population as a whole; and
 - reducing the under-18 conception rate by 50% by 2010 as part of a broader strategy to improve sexual health.'

In the language of the UK government's PSAs, *aims* can be seen as desired outcomes in the model described here. *Objectives* are in effect intermediate outcomes designed to secure the aims, and *performance targets* are intermediate outcomes designed to secure the objectives and defined in such a way that performance against them can be measured. The breadth and complexity of public policy objectives mean that there may be many layers of intermediate objectives that support the achievement of ultimate outcomes.

1.6 Mechanisms and participants

Who operates the mechanisms? Some of the principal categories of participants in the public policy process are:

- governments and their agencies;
- businesses; and
- voluntary organisations.

There are other categories – such as individuals in their capacities as consumers or citizens or employees – that might also be considered.

Although in talking and thinking about *society* people often have in mind a society that coincides with national boundaries, the analysis here is intended to be equally applicable to international questions. Many public policy goals can only be achieved through a greater or lesser degree of international cooperation – by individuals, businesses, or governments. The examples given in this report are drawn from UK experience, but are intended to illustrate problems and issues that are of universal relevance.

It is possible to plot on a matrix how the different categories of participants in the public policy process and the different kinds of mechanisms described in Section 1.4 fit together. Figure 2 shows a matrix with generic examples of how particular groups employ different kinds of mechanism – the entries in the matrix are not intended to provide a comprehensive list.

Figure 2: Public policy mechanisms matrix

		Mechanisms		
		Persuasion	Incentives	Requirements
Participants	Government	Information campaigns	Taxes and subsidies	Laws and regulations
	Businesses	Lobbying	Performance rewards	Policies for employees and suppliers
	Voluntary organisations	Disseminating research	Awards and donations	Policies for recipients of funding

Section 2.3 in the next chapter gives some more specific examples of mechanisms that show – in the context of one particular area of public policy, sustainability – how different participants employ different types of mechanism and what the information implications are for different mechanisms.

2. Practical examples

2.1 Examples of information failure

The practical starting point for this report is the problem of information failure damaging the effectiveness of public policy. The following three brief case studies provide UK examples of where this has happened and where the delivery of well-intentioned policy outcomes has been hampered or even potentially discredited. Instances such as these are not difficult to find, and it would be easy to point to other well-known cases, such as the history of the Child Support Agency, the problems of defence procurement, or the current pensions crisis. Nor are such problems unique to the UK.

It is not the intention here to suggest that information is the sole, or even the most important, cause of success or failure in public policy. A successful policy usually has:

- to be backed by adequate **resources**;
- to have the **support** of those affected by it;
- to be designed and implemented with **competence**; and
- to be designed and implemented with **integrity**.

If any of these factors is missing, the chances of failure are greatly increased. One might also add a fifth factor, **luck**, but clearly this is not something that can be planned for.

The role of information in this is primarily to allow public policies to be competently designed and implemented, but it is also relevant to checking that policies have adequate resources, are supported by those affected by them, and are implemented with integrity. Equally, an otherwise satisfactory information policy can be undermined by inadequate resources, by apathy or hostility from those involved, by incompetence, or by a lack of integrity.

2.1.1 Tax Credits

The Child and Working Tax Credits system was introduced in the UK in April 2003. The Tax Credits system is an annual one and awards are made for a tax year, which runs from 6 April to 5 April. The system is based on granting an initial award based on the claimant's circumstances at the time of the claim and income in a previous year. But the award may change as the claimant's circumstances or income change, and will be recalculated during the year if the changes are reported by the claimant. The award is then finalised after the end of the tax year, taking into account any changes of circumstances during the year, and with reference to the actual income of the year.

Recipients may therefore find that their entitlements are retrospectively reassessed after the year-end and that they owe thousands of pounds to the government. As credits are often paid to those on low incomes, repayments can cause serious problems for the people who have to make them. In *Tax Credits: Putting Things Right* the Parliamentary and Health Service Ombudsman reports that:

'at the end of the tax year 2003-04, a third of all tax credit awards (1,879,000) had been overpaid. In all, the overpayments amounted to £1,931 million. More than half a million awards (630,000) had been overpaid £1,000 or more – including 40,000 awards where the overpayment amounted to more than £5,000.'

At the same point, the end of the 2003-04 tax year, '713,000 households had been underpaid a total of £464 million.' It subsequently emerged that the figure of £1.9 billion for overpayments would have been £2.7 billion had the government not adopted a

policy when Tax Credits were introduced of ignoring increases in earnings of up to £2,500 per family.

The nature of the system, based on retrospective adjustment, is such that some under- and overpayments are inevitable. These predominantly arise where families have not reported changes in their circumstances or income during the year; the Treasury claims that this explains 1.3 million of the 1.9 million overpayments just referred to. The reasons for this kind of information failure are complex. In *Money With Your Name on It? CAB Clients' Experience of Tax Credits*, Citizens Advice explains that:

'Many people suffer from a lack of basic literacy and numeracy skills, yet claiming and renewing tax credits, and keeping the Revenue informed about material changes of circumstance means people must be capable of handling complex information and maintaining full household records. We do not think this is realistic.'

A significant number of mispayments also reflect clear cases of information failure on the part of government. Some of these relate to information technology, but it should be emphasised that IT failures are only part of the problem. For example, the Ombudsman reports that:

- At first, the Tax Credits payment system did not recognise when payments had already been made through another system, resulting in 455,000 duplicate payments.
- There was a problem for some time that 'When a change of circumstances in one partner's income was reported to the Revenue, the computer altered the second partner's (unchanged) income to zero.' This resulted in about 60,000 overpayments. It should perhaps be noted here that the computer does not have a will of its own, but acts in accordance with the instructions provided by its human programmers.
- Sometimes information was scanned in incorrectly.
- Sometimes unrelated customers' details were mixed up.
- Sometimes the complexity of the system for inputting information led to errors. For example, 'where a customer [i.e., a claimant] notifies an additional child in the household, by not following correct processes, [staff] have inadvertently deleted all the existing children from the account.'

There is another kind of information failure in the Tax Credits system, which is the failure to tell claimants what is going on in a way that they can understand and that encourages them to comply with the system. Sometimes what they are told is incomprehensible (such as the award notice) or incorrect (as in the case of some advice from the Tax Credits helpline). The Ombudsman notes that 'poor information on award notices ... makes it difficult if not impossible for customers to work out their entitlement'. Reviewing a specific example of a revised award notice, the Ombudsman comments that 'Based on the information provided, it is not possible to follow the calculation.' When the Tax Credits system was introduced, many commentators argued that the provisional nature of awards and the possibility of overpayments were not being adequately emphasised. Many claimants did not appreciate the consequences of income changes and that their awards would be reviewed after the year-end, and so were unprepared for the eventual overpayments.

There is a vicious circle of information failure here. Information given to claimants is incomprehensible, so they do not understand what information they have to pass on to the government, so the government makes under- and overpayments, which are later adjusted, but claimants do not understand why ... and so on. The Ombudsman concludes: 'The intelligibility of information to customers [and] good communication ... should not be afterthoughts, but central and built into [the] design.'

The House of Commons Committee of Public Accounts has twice reviewed the operation of Tax Credits. Its more recent report, *Inland Revenue: Tax Credits and Deleted Tax Cases*, draws attention to, amongst other things, the inappropriate deletion of nearly a million taxpayers' records by the Inland Revenue. Its conclusions include:

- 'The Department [HM Revenue and Customs] does not have sufficient information about the claimant population to enable it to provide good service to the public and avoid disruption to its main business of tax administration.'
- 'The Department should review the information provided to claimants to enable them to understand their Tax Credit awards ...'
- 'Schemes that are intrinsically complex carry the risk of being too difficult for the intended beneficiaries to understand and for departments to handle.'
- 'The Department needs to maintain reliable and comprehensive management information to monitor the operation of IT systems ...'

2.1.2 NHS waiting lists

The use of waiting list targets in the UK's National Health Service in recent years has produced several instances of perverse incentives. The use of targets for *numbers* on waiting lists, rather than for *waiting times*, seems to have been a straightforward case of information failure through collecting the wrong information. The point here is that a waiting list of a million people is *not* a problem if they can all receive treatment next week; a waiting list of a thousand people *is* a problem if everybody on it has to wait two years for treatment. Targets for waiting list numbers have now been abandoned in favour of targets for waiting times.

However, even targets based on waiting times can lead to information failures through the operation of perverse incentives. The National Audit Office's investigation of NHS waiting lists in 2001, *Inpatient and Outpatient Waiting in the NHS*, found that the imposition of an 18-month target for waiting lists for operations meant that patients were treated

'in a different order ... than their clinical priority indicated. This was, in the main, because the treatment of patients with higher clinical priority for surgery had to be deferred in preference to relatively less urgent patients coming up to an eighteen month wait.'

The NAO report also identified more conventional information failures, concluding that 'we cannot assure ourselves as to the complete accuracy of NHS waiting lists because:

- at many [NHS] trusts there is an absence of, or variation in, effective validation procedures...
- what is counted on waiting lists varies between trusts...

- Patient Administration Systems cannot be relied upon to produce accurate and complete waiting lists...
- in a small number of cases, trusts estimated figures on their returns to the Department of Health and there were instances of significant delays in formally adding patients to the waiting list.'

More recently attention has been drawn to some doctors' surgeries' practice of refusing to take appointments more than 48 hours ahead so as to meet a 48-hour waiting list target. One mother, who put the problem to the Prime Minister on television, explained that she had taken her son to see the doctor and

'After the appointment my doctor said she would like to see my son again in a week to make sure he was getting better. I went to the desk to make the appointment and I was told I wasn't allowed to make it and had to ring back 48 hours beforehand.'

Clearly the waiting list information such surgeries reported was seriously misleading.

2.1.3 Self Assessment

The UK's tax system is one of baffling difficulty. Current tax law is over 10,000 pages long, much of it impenetrably drafted, and it continues to grow in length and complexity. There are clear opportunities here for information failure, and while such failures do occur, that they have not been more frequent or more serious is a reflection of the professionalism of both those who administer the law and those who assist compliance with it. But there are problems, and some of these are explored in the National Audit Office's review of the Self Assessment regime, *Filing of Income Tax Self Assessment Returns*.

Self Assessment for income tax has been in operation since 1996. Like Tax Credits, it is an area of public policy where some level of inaccuracy in information is inevitable; apart from anything else, there will always be some people who try to evade their tax liabilities. However, the overall level of information failure is surprisingly high. For example:

- '32% of tax returns filed by taxpayers contain some errors and mistakes.'
- 'In 2003-04, [HM Revenue and Customs] processed 6% of returns (around 500,000 a year) with some level of error.'
- 'The Department ... incorrectly imposed automatic penalties on some 30,000 taxpayers.'
- 'The Department had an accuracy rate of 71% in 2003-04 in setting taxpayer Pay As You Earn codes and made around two million errors in codings.'

As might be expected, many of the failures by taxpayers to file correct information are attributable to a lack of understanding of what they are meant to be doing. The NAO recommends:

- 'greater use of plain English supported by guidance';
- 'improved information for taxpayers and staff on the main errors', including 'providing information to taxpayers on the common mistakes made in completing returns';
- 'providing enhanced training for call centre staff to ensure they can handle enquiries effectively, accurately and consistently'.

Overall, there is a persistent level of information failure inherent in the tax system, and at least some of this must be due to its inherent complexity – and taxpayers’ inevitably limited understanding of it.

2.2 Regulatory overload and information requirements

Two of the three examples just considered include situations where there are significant and complex information demands on ordinary members of the public. Businesses often face the same kinds of demand, and one may suspect that many complaints from business of excessive regulation and red tape are traceable, not to the substance of what the regulation is intended to achieve, but to poorly thought-out information and unduly burdensome information requirements.

There are two distinct but related issues here.

- The problem of understanding the information that tells a business what it should or should not be doing – this often amounts to thousands of pages, as in the tax system. Public sector bodies can be equally baffled by such information overload. A recently highlighted example is the confusion that impedes sustainable purchasing policies in the public sector, where the Accounting for Sustainability Group, in *Realising Aspirations: Or, Using Value for Money to Make the Public Sector More Sustainable*, points out that ‘as of 2003 the Office of Government Commerce had produced over 2,300 pages of advice and guidance in 170 different documents’.
- The problem of making lengthy and complex returns of information, which can be disproportionately burdensome – both in terms of the cost to the organisation making the return and of the value of the information being returned. The UK’s anti-money laundering requirements provide an example of this. A recent survey (Z/Yen Ltd, *Anti-Money Laundering Requirements: Costs, Benefits and Perceptions*) found that 65% of respondents, from sectors required to comply with the requirements, thought the requirements disproportionate to the risks they are intended to combat.

There are positive signs in the UK that the government appreciates that regulation often imposes unnecessary information burdens. For example, a recent report from the Better Regulation Task Force, *Regulation – Less Is More*, makes various proposals for reducing the information burden, including information sharing among government bodies. But there is still a long way to go.

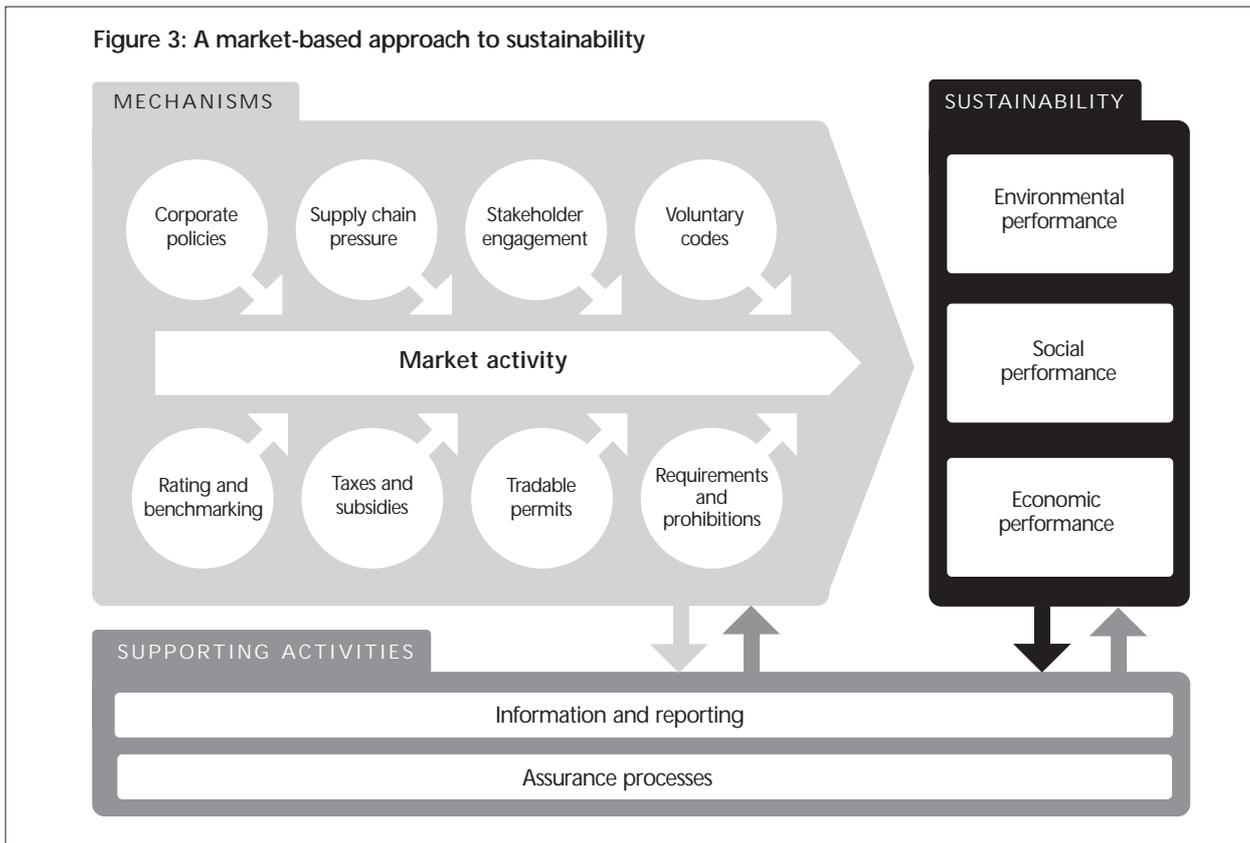
It is recommended that research should be undertaken on this issue, to see how far perceptions of excessive regulatory burdens are attributable to poorly designed information systems and requirements (see Section 5.3 below).

2.3 Examples of mechanisms and their information requirements

An earlier publication in the *Information for Better Markets* series, *Sustainability: The Role of Accountants*, shows how the Information for Better Markets Framework can be used to analyse public policy issues and provide fresh insights on them. The *Sustainability* report also focuses attention on the need to consider the purposes for which information is needed. It is all too easy to propose copious sustainability reporting requirements that serve little useful purpose.

The *Sustainability* report identifies eight mechanisms that are used to channel market activity towards the desired outcomes of sustainable environmental, social and economic performance. These are shown in Figure 3 and explained further below. In terms of the

categories identified in the mechanisms matrix in Figure 2, the eight mechanisms come into all three groups – persuasion, incentives and requirements – and are employed by all three kinds of participant: government, businesses and voluntary organisations.



How does each of these mechanisms work?

- Businesses impose requirements in their **corporate policies**, through which companies that are convinced of the merits of adopting policies on sustainability enforce them on their employees.
- **Supply chain pressure** sets a required standard of sustainable performance among suppliers and others in the supply chain. Such standards can apply through requirements imposed on suppliers, through provision of incentives and disincentives, or through persuasion.
- **Stakeholder engagement** usually works through persuasion, but sometimes through incentives and disincentives, and there can be circumstances in which stakeholders are in a position to impose their views – if they own the business, for example. The relevant stakeholders here could be all kinds of different groups: governments, businesses, voluntary organisations, individual consumers and so on.
- Through **voluntary codes**, organisations can be encouraged to improve particular aspects of their sustainability performance.
- Through **rating and benchmarking**, investors, creditors and others, or agencies working on their behalf, can grade organisations and so influence their behaviour.
- Governments employ incentives and disincentives in **taxes and subsidies**, imposing

additional taxes on activities where consequences are negative and providing subsidies where they are positive.

- **Tradable permits**, by which governments ration scarce resources or undesirable impacts, but allow rights to them to be bought and sold, are a novel kind of requirement or prohibition that has been developed in the context of sustainability. They also act as an incentive (or disincentive) through the impact of permit prices on users' costs.
- Governments employ **requirements and prohibitions** to mandate actions that enhance sustainable performance.

What information requirements are implied by the various mechanisms designed to promote sustainability?

- **Corporate policies** on sustainability require information that tells employees what the policies are and how they should be complied with, and reports on the policies' implementation and their impact.
- **Supply chain pressure** requires information from customers as to what their expectations are and how they should be met, and reporting on the achievement of standards of sustainable performance by suppliers and others in the supply chain.
- **Stakeholder engagement** requires information from stakeholders as to what their expectations are and how they should be met, and information flows about sustainable performance.
- **Voluntary codes** are in themselves a form of information, telling those complying with them what they can and cannot do, and they require reports on compliance and explanations of non-compliance.
- **Rating and benchmarking** need information from those performing the rating or comparison as to the nature of the data they require, and information from those being assessed on sustainability policies and performance.
- **Taxes and subsidies** require information as to the basis on which they are to be calculated, and information in the form of completed tax returns and grant claims.
- **Tradable permits** require information about how those using the quota system should comply with it, and information about quota utilisation to support the operation of fair markets.
- **Requirements and prohibitions** require information for those affected by them as to how they are to work, and information to enable enforcement bodies to monitor compliance.

Different mechanisms therefore have different information requirements. Two implications of this are that:

- General purpose information requirements are likely to generate superfluous (and costly) information, imposing unnecessary burdens on the providers of information and making it more difficult for those monitoring the effectiveness of mechanisms to focus on what is relevant to their needs.

- If information requirements are properly focused, different mechanisms will have different information costs and benefits. These information costs and benefits should be taken into account in choosing among potential mechanisms.

In the light of practical examples such as these it is possible to extend the model shown in the Information for Better Markets Framework at Figure 1. This is the subject of Chapter 3.

3. Information needs

3.1 Two kinds of information

Errors in the Tax Credits and Self Assessment systems described in Chapter 2 often arise because people do not understand what the rules are or what information they should be submitting. Chapter 2 also showed that requirements and prohibitions and other mechanisms that support sustainability require people to understand what they should or should not be doing.

Different mechanisms, market participants and desired outcomes each have their own distinct information needs. One might assume that all this information is factual, but much of the information is not factual in the sense that the word is normally used. Instead it tells people what they *should* be doing, and is therefore prescriptive, whereas factual information is descriptive. All mechanisms, all market activity and all desired outcomes need or embody prescriptive information. Mechanisms will not work on their own, but need people who know what they are required to do to make them work. All market activity takes place within a framework of policies, rules and expectations that guide people to take appropriate decisions. Desired outcomes – such as the aims and objectives in the UK Government’s Public Service Agreements – themselves embody prescriptive information. The specification of a desired outcome is itself an implicit instruction to people to act in a way that promotes it.

All information can be categorised as either prescription or description, and descriptive information often supports accountability. For example, where individuals or organisations are identified as responsible for operating mechanisms or achieving outcomes, it will usually be sensible to require them to report on how far expectations or requirements have been met by actual performance.

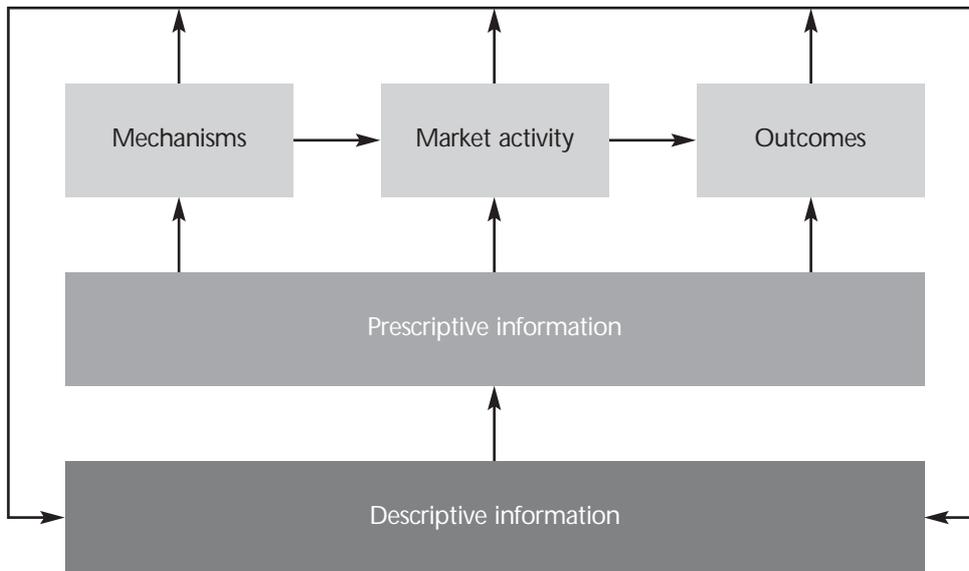
For purposes of analysis, it will often be useful to distinguish sub-categories of information. Categorisations that might be useful for particular purposes are those distinguishing between:

- forecasts (forward-looking descriptions) and historical information;
- financial and non-financial information;
- market transaction information and offer information, showing the terms on which market participants indicate they would be willing to buy or sell (i.e., what they are offering to buy or sell, at what price, and in what quantities);
- estimated and actual information;
- spoken and written information;
- numerical and verbal information;
- pictorial and non-pictorial information.

For mechanisms, markets and desired outcomes, descriptive information has a potential feedback effect. The prescription of mechanisms is modified in the light of information on their performance; market activity responds to changes in prices; the prescription of outcomes is adjusted if information indicates that they are poorly defined or unachievable or only achievable at too high a cost.

In the light of this analysis, the Information for Better Markets Framework in Figure 1 can be adapted, as in Figure 4, to reflect the two basic categories of information and how they interact with the other elements in the model.

Figure 4: The role of prescriptive and descriptive information



3.2 Information and markets

The information used by markets defies summary. This is not only because there is a great deal of it and because its variety is enormous, but because the market process constantly provides its participants with incentives to find and use new types and sources of information.

Perhaps the key characteristic of the market process is that participants engage in it with the object of gain. The gains from buying and selling are not merely those of profit or loss in an accounting sense. Every market transaction represents a gain to both buyer and seller. For example, retailers who sell groceries are better off selling them than leaving them to rot on the shelves, and consumers who buy them are better off consuming their purchases than holding on to their money (otherwise, presumably, they *would* hold on to their money).

Price information is central to the operation of markets. Prices drive market decisions – again not just the decisions of those who seek to make a profit or loss in an accounting sense, but those of all market participants. Consumers are less likely (other things being equal) to buy from retailers which charge higher prices. Workers are less likely (other things being equal) to sell their services to employers who pay low wages. It is because prices are so powerful in driving market decisions that there is so much information about them – for example, thousands of prices of investments, currencies and commodities in daily newspapers and many more, updated in real time, through electronic media.

Another key characteristic of the market process is its unpredictability. Although everybody who participates in markets makes assumptions about the future, including about future prices, many of these assumptions inevitably turn out to be wrong. One reason (among many) for the unpredictability of markets is that the number of participants in the market process is huge and another is that the identities of key participants are unknown in advance. For example, the price of coal is affected by the consumption habits of virtually the entire population of the earth – 6.5 billion people, many of whom have a direct demand for coal, and many more of whom demand products and services that use coal in the production process (and so on along the production cycle). The supply of and demand for coal are also affected by the 6.5 billion

consumers' direct demand for products that compete with coal, and their demand for products and services that use coal's competitors in the production process (and so on along the production cycle). Nor can one forecast with confidence who will enter (or leave) the coal production market. Price trends may attract new participants who see the prospect of gain. Or there may be new discoveries of sources of coal or new techniques for processing it.

How can anyone hope to predict all of this accurately? In practice, of course, those who have to make predictions usually extrapolate existing trends, adjusting them where they see reason to do so. Inevitably, they are often wrong.

The information reflected in a market price is highly complex. For coal it reflects the demands of 6.5 billion consumers and whatever anyone knows about the intentions of all potential market participants and all the numerous technical factors that might affect demand or supply for coal. This is one of the key reasons why central planning of economies has proved so unsuccessful; the information demands that central planning implies – much of it information about the future – are impossible to meet.

Prices are therefore a very economical way of condensing information, including information that would not otherwise exist. Markets give participants incentives to discover, create, understand and analyse information for themselves. Information is not something that exists in limitless quantities as a gift of nature, and which can then be effortlessly absorbed. Gathering information is costly and difficult, and so is its use. Also, much useful information is created (and can only be created) by the process of participation in the market. Entrepreneurs constantly speculate as to what will work and what will not – will a certain product find buyers? Will a certain production process reduce costs? Will a certain price cut increase demand enough to make it worthwhile? The answers to such questions, which lie at the heart of the market process, can only emerge by a process of competitive trial and error – what the economist Friedrich Hayek called 'competition as a discovery procedure'.

Again, central planning does not provide the incentives to gather and use information that exist in a market. Stipulating what information market participants should submit on forms returned to the central authority merely scratches the surface of the information needs of an effective market.

3.3 Principles as information

Like prices, principles can be thought of as a highly condensed form of information. Scientific laws, for example, set out descriptive principles that help us to understand and predict a wide range of specific phenomena, including ones that were unknown or could not have been anticipated when the laws were formulated. Similarly, for prescriptive information, principles provide information that guides people as to the decisions they ought to take in a wide range of specific circumstances for which it might be impracticable or undesirable to attempt to draw up detailed prescriptions in advance.

3.4 The wider context

The Information for Better Markets Framework at Figures 1 and 4 shows information as the underlying support for mechanisms, markets and outcomes. But all the elements of the framework exist in, and are supported by, a wider context of culture, institutions and technology. The role of technology in enhancing information is one of the issues explored in *Digital Reporting: A Progress Report*, a publication in the *Information for Better Markets* series.

The most important kind of support is provided by the cultural characteristics that enable a society to work effectively to achieve its goals. Among the most important of these characteristics are:

- shared values;
- trust; and
- education.

Shared values are important as they make it easier to agree on desired outcomes and to work towards them. If the members of society have radically different values, they will be less able to mobilise public policy to help achieve their goals, and are therefore less likely to achieve them. Shared values also economise on information. If people agree on what they take for granted, there is no need to be constantly spelling it out.

Trust is important because its absence can impose such severe costs that the achievement of desired outcomes becomes impossible. If people do not trust one another:

- they have to take all kinds of defensive measures to protect themselves and their property;
- they will not know what information they can rely on, and so will miss opportunities to achieve their goals; and
- they will in any case tend not to seize opportunities, as they will doubt whether they will be able to enjoy the rewards of their successful efforts.

At the extreme, lack of trust produces a Hobbesian society where life is 'nasty, brutish and short', and the Hobbesian solution of a social contract can be seen as a way of allowing trust to emerge and the benefits of social life to follow.

Education makes it more likely that a society will:

- be able to devise and operate effective mechanisms to steer market activity towards desired outcomes;
- engage in market activities that are effective and productive; and
- be able to produce useful information and to make use of it.

In the context of this report, the last point is especially important, and it will be recalled that 'a lack of basic literacy and numeracy skills' was identified as one of the causes of information failure in the Tax Credits system. The meaning of education in this context is an extended one; it is not something that comes to an end when people leave school or university and enter the employment market. Processes such as Tax Credits and Self Assessment can only succeed where it is appreciated that their implementation involves major adult education projects.

Shared values, trust and education all contribute to effective regulation in the broadest sense. Although a contrast is sometimes made between markets and regulation, as though they were two mutually exclusive options, in practice all markets rely on some degree of regulation to promote their effective operation. In its simplest form, regulation may be no more than a moral code that prohibits theft and fraud or, at a rather higher level of sophistication, that requires debts to be paid and contractual commitments to be

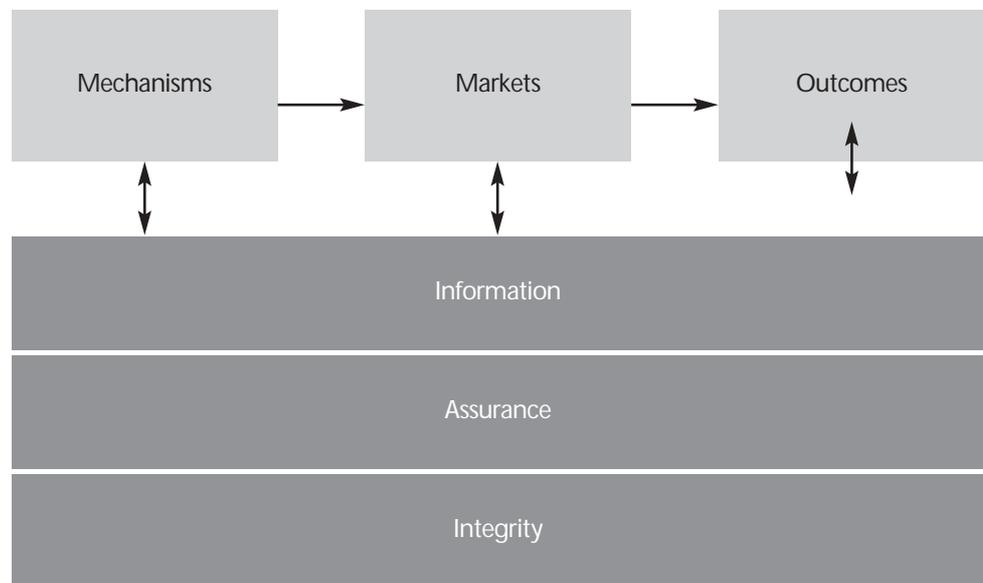
complied with. Given that regulation is an inherent part of markets, it follows that the cultural characteristics that promote effective regulation also promote effective markets. Examples include:

- respect for property rights;
- respect for the rule of law;
- honesty;
- paying your debts; and
- respect for contractual commitments.

3.5 The importance of integrity and assurance

Integrity and assurance are particularly important aspects of culture and institutions for the information element of the Information for Better Markets Framework. This can be represented by adapting the Framework in Figure 1 to show assurance underpinning information, and integrity underpinning both information and assurance.

Figure 5: The roles of integrity and assurance



Integrity is an important cultural characteristic that supports information. Information prepared by people who lack integrity is less likely to be believed and acted on. This is an issue that will be addressed in a forthcoming publication in the *Information for Better Markets* campaign, *Reporting with Integrity*. Integrity is also relevant to other elements in the Framework; for example, it is widely regarded as a valuable characteristic of markets and market participants, which promotes the efficient conduct of transactions.

People need to know what information they can rely on, and how far they can rely on it. One way of helping them to form judgements on these matters is through assurance. In this context assurance usually means obtaining the opinion of an independent third party on the information; the audit of financial statements is an important example of such assurance.

Assurance supports the qualities of accuracy and reliability in information, but there are other desirable qualities, such as relevance, understandability and timeliness that are discussed in the next chapter. According to the International Auditing and Assurance Standards Board, assurance requires 'suitable criteria ... for reasonably consistent evaluation or measurement of a subject matter within the context of professional judgment' and these criteria 'need to be available to the intended users to allow them to understand how the subject matter has been evaluated or measured'. The audit of financial statements provides an example of one area where such criteria are already established.

Questions of assurance and reliability are especially significant in relation to accountability information, where people are frequently reporting on their own performance and may therefore be motivated to present an unduly favourable view.

Integrity is important as a cultural characteristic that not only underlies information, but also the provision of assurance on it; assurance is more valuable where those who provide it have integrity. Paradoxically, the more deeply integrity is established as a cultural trait, the less need there should be for assurance in the first place. Similarly, the more trust there is in society, the less need there should be for assurance. So, although assurance promotes trust and integrity, one may see it as a second-best solution, which would not be required – or would at any rate be less important – in a society where there was perfect trust and integrity.

So far, this report has stressed the importance and integral role of information in public policy issues. But what determines whether a particular item of information is useful in supporting mechanisms, markets and outcomes and achieving public policy objectives?

4. Attributes of useful information

4.1 Desirable qualities of information

The information needs of public policy are always liable to be both complex and extensive, and nothing in this report should be taken to suggest otherwise. But it is possible to describe the attributes that information should have, and against which an information policy should be judged in achieving specific public policy objectives.

The list of attributes of useful information developed here is based on earlier work by:

- writers on business information systems and research methods; and
- financial reporting standard-setters.

References to their work are provided in the bibliography at the end of this report. The attributes listed are valid for information generally, meeting the needs of both markets and society; they are therefore as important for businesses as for public policy. A similar list of relevant attributes for performance measures can be found in the UK government's report, *Choosing the Right Fabric: A Framework for Performance Information*.

Above all, information should be fit for purpose and cost-effective. Not all costs or all benefits are monetary or measurable, so although cost-effectiveness is an overriding principle, it is often difficult to apply. In certain contexts, and it would be usual to expect public policy questions to come into this category, the principle needs to be applied very broadly, looking at the costs and benefits for all parties. In other cases, essentially private matters, it should usually be interpreted more narrowly. For example, why should one party have an obligation to provide a second party with information merely because the costs to the first party of doing so are lower than the benefits to the second party? Often, though, the problem is to decide whether a question should be treated as one of private rights or public policy.

In deciding whether information meets the fit-for-purpose and cost-effectiveness tests, thought should be given to the following recognised attributes of useful information. It is not necessary for information to score highly against all nine attributes for it to be useful, and there are often trade-offs between different attributes. But the more highly information scores on each of the attributes, the more useful it will be. Information should be:

1. **relevant**
2. **accurate**
3. **reliable**
4. **comparable**
5. **understandable**
6. **concise**
7. **timely**
8. **fair, and should**
9. **avoid perverse effects.**

These attributes, which apply to both descriptive and prescriptive information, are considered in turn below. As noted earlier, the attributes listed here are based on similar

lists elsewhere, and it is proposed that the ICAEW should consider commissioning research to provide a critical review of the literature on the desirable attributes of information, and to assess how far the attributes identified are valid in different spheres of activity.

4.1.1 Relevant

The principle that information should be relevant seems indisputable; the problem is working out exactly *what* is relevant and whether the information that would be relevant would also meet all the other desired requirements. For example, there is often a trade-off between relevance and accuracy, and one could argue that in many cases there is an inherent conflict between the two. Information is relevant because it influences decisions; those who have an interest in the decisions therefore automatically have an incentive to skew the information on which they are based, casting doubt on its accuracy. The problem of using measures that are also targets has been summed up in Strathern's Law. Formulated by the anthropologist Marilyn Strathern in the context of measuring the performance of universities, this states that: 'When a measure becomes a target, it ceases to be a good measure.'

Relevance is as important for prescriptive as for descriptive information. You need to know what ought to be done in the particular circumstances or in the particular kind of situation that you face; knowing what ought to be done in some other situation may be interesting, but is of no practical value until you are in it. This does not mean that the only relevant prescriptive information is highly detailed and directed to particular situations. Appropriate prescription may well take the form of general principles; what is important is that you should know, or be able to work out, how to apply the principles to particular cases.

4.1.2 Accurate

Useful information must be true or accurate or have *representational faithfulness*. Nobody disputes that this is a desirable characteristic of information, though some regard it as merely an aspect of reliability, rather than a distinct quality in its own right. Accuracy includes the notion of **completeness** in the sense that if waiting list figures exclude patients who ought to be included, they will be inaccurate, or if a company's accounts exclude transactions that ought to be included, they will be inaccurate (see also Section 4.1.8 below).

Accuracy is also essential for prescriptive information. If, for example, people are given inaccurate information as to how they ought to fill in their tax returns, they will not fill them in correctly.

4.1.3 Reliable

While everybody also agrees that information should be reliable, there is no consensus as to what exactly reliability means. In particular, views differ as to whether verifiability is an essential component of reliability. Reliability implies not only that information is accurate (though it could of course be reliably wrong), but that users can have confidence that they can rely on it. This might be because the information has been verified by a third party or because it comes from a reliable source or for some other reason. Reliable and useful information should therefore be both accurate *and* have some additional characteristic that allows the user to place reliance on it; perhaps an appropriate label for this would be *trustworthiness*.

Prescriptive information also needs to be reliable. If people feel that they cannot trust what they are told to do, they will do something else.

Reliability is an issue that arises in the transmission of information as well as in its original creation. For example, the sources of information that appears on a website may be reliable, but the user may have concerns as to whether the information has been transferred to the website fully and accurately.

4.1.4 Comparable

Because people use descriptive information to make choices, its usefulness will be greatly enhanced if it is comparable. Quoting prices for competing products and services on a comparable basis is an obvious example. Consumers also value comparable non-price information and investors need to compare accounting and other information across organisations, industries and countries, and over time. However, this is another area where there is often a trade-off with relevance.

Circumstances differ from entity to entity; what is relevant in measuring the performance of one school, for example, may not be relevant to measuring the performance of another. And as circumstances change, what is relevant changes too; meeting constantly changing information needs may well mean that there is a loss of comparability. Sometimes, loss of comparability can be mitigated by restating information in a comparable form, where sufficient data exist to do this.

Comparability is also important for both prescriptive and descriptive information because it reduces the risk of misunderstanding and error by reducing the investment in learning that needs to be made to achieve desired outcomes. For example, if the rules for determining income for tax purposes are different from the rules for determining income for the purposes of claiming benefits, this is a potential cause of confusion.

4.1.5 Concise

There are some issues and audiences for which a 500-page report with 10,000 pages of appendices will be appropriate. But other things being equal, the rule for information must be: the shorter the better.

The same applies to prescriptive information. The Ten Commandments are more memorable and compelling for their brevity. If Moses had come down from Mount Sinai with a 5,000 page rulebook, who would remember it now?

4.1.6 Timely

There is no point in preparing information that arrives too late to be useful. It is particularly important for prescriptive information to be timely; we need to know what we should do before we do it, not afterwards. Frequently there is a trade-off between timeliness on the one hand and accuracy and reliability on the other; processing and checking information take time, but often the mere passage of time allows more accurate information to emerge.

4.1.7 Understandable

It may seem obvious that neither descriptive nor prescriptive information will be of any use unless people understand it, but this is another controversial point – not because there is any dispute as to whether information should be understandable, but because there is disagreement as to *who* needs to understand it. The view adopted here is that the purpose of information defines the users and that, within the constraints of the cost-

effectiveness test, all users of that information need to understand how to use it. This does not necessarily mean that all users understand how it is produced, any more than someone using a PC needs to understand how digital technology works.

However, there is a risk that people will seek to resolve perceived problems of understandability by redefining who the users of information are. One argument sometimes put forward in relation to technical information, for example, is that it only needs to be understood by the relevant technical experts.

There are various ways in which information can be presented and communicated. The means of communication is a distinct issue from the quality of the information being communicated, and the form of information needs to be tailored to users' capacities and needs. Nevertheless, what is understandable will vary between different information users. Research suggests, for example, that most people find it easier to take in information if it is expressed in pictorial form. Many people have problems coping with numbers.

4.1.8 Fair

It is possible to provide accurate information, but to give a misleading impression. Fairness may be a question of putting information in context, or of putting it in the right order or the order that is most helpful to users, or of telling not just the truth but the whole truth, or of avoiding misleading arrangements or emphases in the way the information is presented – such as putting a spin on it or giving key information in small print. The idea of fairness also includes one aspect of the idea of **completeness**, where incomplete information would give a misleading picture.

With prescriptive information, if detailed and subordinate requirements are given greater prominence than overriding principles, people will get the wrong idea as to what they should do. Fair presentation can also be especially important where what is being described is inherently uncertain. The implications in relation to forecasts of business performance are considered in an earlier report in the *Information for Better Markets* series, *Prospective Financial Information: Guidance for UK Directors*.

4.1.9 Avoid perverse effects

Information can be counter-productive, in terms of conflicting either with the desired outcomes that it is intended to produce or with other objectives.

Much information is relevant because it measures performance on which organisations and individuals are judged. But if people are judged on the basis of a particular measure, this may lead them to neglect beneficial actions or to take harmful actions whose consequences are not reflected in the measure. Instances of this have already been given in relation to public policy, but it is an equally common problem in business. For example, some argue that concentration on accounting measures in general and profits in particular has perverse effects, as the long-term and non-financial effects of actions are left out of account. From this point of view, reliance on short-term earnings is argued to be, like some NHS waiting list information, a case of unduly narrow focus. *New Reporting Models for Business*, an earlier report in the *Information for Better Markets* series, analyses proposals for changing corporate reporting in response to this perceived problem.

The need to avoid perverse effects is if anything even more important for prescriptive information. The law of unintended consequences is a well-known problem in rule-making, but though some unintended consequences are probably inevitable, it is still important to anticipate and avoid the undesirable ones as far as possible.

4.2 Behavioural aspects of information

The problem of perverse effects is just one issue that arises from the behavioural aspects of information.

However, in deciding what information is relevant and understandable and in considering other aspects of usefulness, we need to know who the users of information are and how they are likely to respond to it. The wider cultural and institutional context referred to in Chapter 3 will often influence users' responses, but there are other aspects of human behaviour and psychology that have more general application.

One relevant factor is users' basic abilities to cope with information. Even where those involved have the necessary basic skills, the Tax Credit and Self Assessment systems show that the limits of people's ability to cope with complex information demands can often be quickly reached. Also, people have limited time to devote to understanding such matters.

The question then arises of how people will react to information demands that they are unable to cope with. Some will give up and try to ignore the demands made on them; some will do their best to cope, but make mistakes; others will take a middle course, submitting some information – perhaps what is easiest for them or what they think will work in their favour – but not bothering to attempt to provide consistent or comprehensive returns.

To a greater or lesser extent such problems are universal:

- People have limited time to take decisions.
- Their knowledge is limited (i.e. nobody knows everything).
- Research is expensive.
- The future is unknown.

People therefore use a variety of heuristics to help them through life – shortcuts that economise on the need for information and the need to spend time assessing it. Research shows, for example, that people tend to generalise unduly from their knowledge of the particular. Sometimes such heuristics are useful (which is why they exist) and sometimes they are counter-productive. They can be overcome, when that is appropriate, but it requires a conscious effort.

Limited time can have impacts on information requirements – and to some extent cause behavioural effects – very similar to those of poor literacy and numeracy skills. For example, those in senior positions in organisations, whose time is most valuable, often require information to be presented very simply and concisely. If information is not presented in the right way for people at this level, they may either ignore it or, more probably, delegate it to someone else to deal with.

The internal control reporting provisions of Section 404 of the Sarbanes-Oxley Act in the US provide an example of something intended to receive high-level attention from senior management of listed companies, but for which detailed requirements are set out in a long and complex auditing standard, which is unlikely to receive senior managers' attention. If an objective is to secure the personal consideration of busy people, therefore, care needs to be given to both the content of the information and how it is communicated.

Moreover, because information providers are constantly competing for information users' limited attention, the providers that make the most noise may succeed in attracting the most attention, even if their information is of no more value than their competitors'. This reflects the probably unavoidable behavioural characteristic of users, that their attention is often attracted by inessentials. A book written by a celebrity will sell more copies than a better book on the same subject written by somebody else. A company that manages to attract media attention may attract more interest from investors than a comparable company that does not.

People also apply emotional biases in their interpretation of information. Sometimes these are culturally acquired. We trust information more when it comes from people who we think are 'like us', and this clearly has a cultural dimension. Sometimes the biases are more general. It seems to be human nature, for example, to overrate our own abilities and to attribute past successes unduly to our own skills rather than to good luck (and past failures to bad luck or other people).

It is also human nature, and perfectly rational, to work on the assumption that our beliefs about the world are by and large correct and that information that conflicts with our existing beliefs may well be incorrect. But it also seems to be natural to be too strongly attached to our existing beliefs when they meet conflicting evidence. Sometimes this reaction is not adopted in good faith, and simply reflects the tendency of those in authority to reject information that suggests that their plans are likely to fail or have in fact failed. Where this is the case, information providing feedback that should be acted on will be disregarded.

In summary, a wide range of behavioural considerations affect how people will use information and how they will respond to it. One might draw two overall conclusions for considering the role of information in achieving specific public policy objectives.

- There is a need for a conscious effort as part of the planning process to anticipate how people will use information and how they will react to it.
- Information requirements should be flexible, so that they can be adjusted in the light of experience. Information should be adjusted not only to fit changing mechanisms, markets and desired outcomes, but also to reflect changes in our understanding of how people use information and how they respond to it.

5. Ideas for discussion

5.1 General principles for information and public policy

The following principles apply to public policy issues and are put forward for discussion. They are intended to minimise the incidence of information failure and to improve the delivery and effectiveness of public policy:

1. Information requirements should be designed as an integral part of public policy, not added as an afterthought.
2. Every public policy proposal should include an information plan.
3. Policy initiatives and related information requirements should be reviewed regularly in the light of feedback and experience.
4. The appropriateness of information for public policy purposes should be judged against the overriding criteria of fitness for purpose and cost-effectiveness, and against the recognised attributes of useful information.

The information plan for a public policy proposal should show that the following issues have been considered:

- what information flows are necessary for the policy to succeed;
- how the relevant information can be collected;
- how information quality can be achieved;
- how information will be communicated;
- how participants in the process are expected to respond to the information they receive; and
- how the information-related risks of the policy proposal will be addressed.

Those developing public policy proposals will no doubt wish to consider, for each of these aspects of an information plan, a number of different questions. These might include:

What information flows are necessary for the plan to succeed.

- Who needs to receive information?
- What information do they need to receive?
- What checks will be put in place to ensure that the information being received is what is needed?

How the relevant information can be collected.

- Who is being relied on to provide the information?
- How will they know what information they have to provide?
- What measures will be taken to check their competence and integrity?

How information quality can be achieved.

- What checks will be made on the accuracy of information inputs and outputs?

- What advance tests will be made on information processing systems to check that they will operate effectively?
- What incentives and disincentives will the system provide to promote information quality?

How information will be communicated.

- What media will be used to communicate the information?
- Do different audiences need to be addressed in different ways?
- What advance trials will be made to check that the information communicated will be understood?

How participants in the process are expected to respond to the information they receive.

- What advance tests will be carried out to check that people are likely to respond appropriately?
- Could the information generate any perverse effects and, if so, how will they be guarded against?
- If the relevant information includes prices, have economic models been prepared and tested to check that the expected responses are likely to be forthcoming?

How the information-related risks of the policy proposal will be addressed.

- What information-related risks have been identified?
- What measures will be taken to check that all relevant risks have been identified?
- What steps will be taken to manage identified risks?

The principles put forward here may well seem obvious. The significant point is that although people probably know already what needs to be done, all too often the information component of policy is either skimped or overlooked – perhaps because its importance is underrated or because it seems to be a relatively tedious and unglamorous aspect of policy development. The principles suggested here, if adopted, should help to make information failure less common.

5.2 Some lessons of failure

As well as these general principles for information and public policy, some more specific practical lessons might be drawn from the three examples of information failure described in Section 2.1.

- Information is as important to those who are on the receiving end of policy as it is to those who make and implement it. Often they are themselves key providers of information; if the system is to work, they need to understand it.
- Surprisingly basic faults in the reliability of information can be found even in major areas of public policy from such causes as poor programming, inadequate training, and lack of checks on information inputs.

- Information on performance against targets will often be biased. Solutions to this problem may include: more appropriate targets; multiple targets; more precise definitions of the information required; more checks on the information being returned.

The examples in Section 2.1 also reinforce two of the general principles set out above. They suggest that:

- It is too late to think about information requirements at the last minute, or when implementation is already underway. It needs to be part of policy formation from the outset.
- Information requirements need to be constantly reviewed; policy and information should evolve together.

5.3 Areas for research

The analysis in this report raises a number of issues where there seems to be a need for either a summary of existing knowledge or further research on specific questions. The following research ideas are put forward as proposals for comment, and readers' input would be welcomed where they can point to information on what is known already or suggest answers to the questions posed or alternative questions for research.

- **The behavioural effects of information.** What is the current state of knowledge on the behavioural aspects of information use? What time-saving short-cuts do people use in processing information? What are their emotional biases in processing information? What practical examples are there of information or its presentation being adjusted to cope successfully with such biases and heuristics?
- **Measures used as targets.** What steps do organisations take to protect the effectiveness of measures used as targets? When do they use multiple targets? How do they avoid gaming? What assurance processes do they rely on? How are incentives structured to ensure the reliability of information?
- **Attributes of useful information.** A critical review of the literature on the desirable attributes of information would be helpful; this should assess how far the attributes identified are valid in different spheres of activity.
- **Information requirements of regulation.** This report suggests that information requirements may be the cause of many perceptions of over-regulation and that information issues lie at the heart of many perceived failures of public policy. To what extent are these hypotheses supported by evidence?
- **General principles for information and public policy.** The report identifies general principles whose application would include preparing an information plan for public policy proposals. Could the principles' usefulness be tested by reference to actual public policy case studies?
- **Environmental factors influencing information failure.** What environmental factors influence information failure? What techniques have been used in practice to combat environmental factors that contribute to information failure?

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None of the commentators should be assumed to agree with the views expressed in this report, and they are not responsible for any errors or omissions.

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Useful websites

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Better Regulation Executive	www.cabinetoffice.gov.uk/regulation
Better Regulation Task Force	www.brtf.gov.uk
Citizens Advice	www.citizensadvice.org.uk
Corporation of London	www.cityoflondon.gov.uk
Demos	www.demos.co.uk
Financial Accounting Standards Board	www.fasb.org
HM Treasury	www.hm-treasury.gov.uk
House of Commons	www.parliament.uk
Information for Better Markets	www.icaew.co.uk/bettermarkets
International Accounting Standards Board	www.iasb.org
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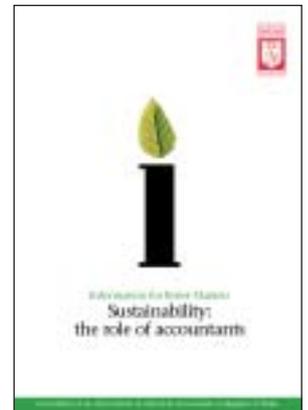
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