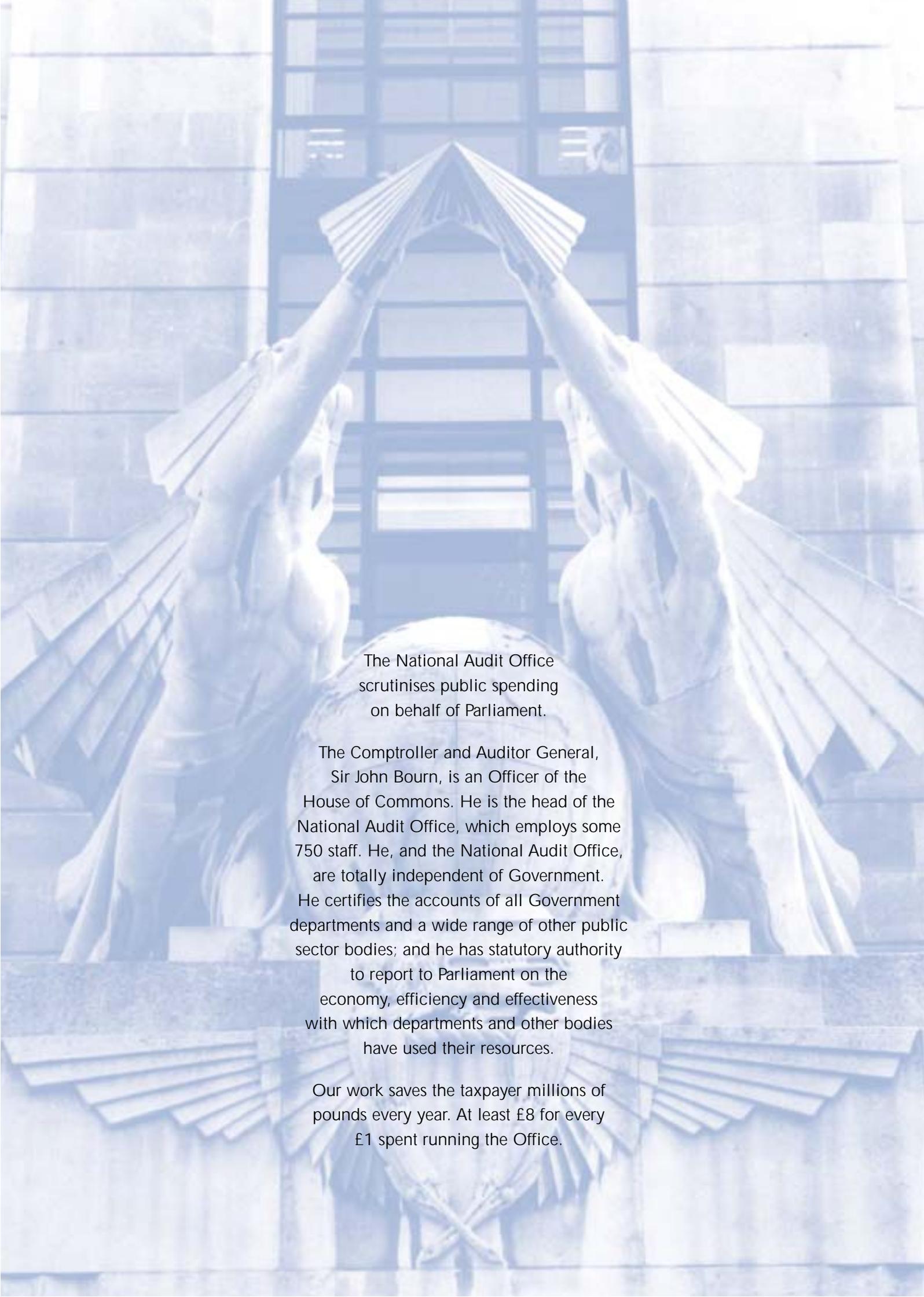


Department of Trade and Industry
Regulation of weights and measures

REPORT BY THE COMPTROLLER AND AUDITOR GENERAL
HC 495 Session 2002-2003: 14 March 2003





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Department of Trade and Industry

Regulation of weights and measures



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This report has been prepared under Section 6 of the National Audit Act 1983 for presentation to the House of Commons in accordance with Section 9 of the Act.

John Bourn National Audit Office
Comptroller and Auditor General 12 March 2003

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executive summary

Regulating the accuracy of weights and measures for the benefit of consumers and businesses

- 1 Accurate, reliable and fair weights and measures are fundamental to a sustainable trading economy. Every week around £1 billion worth of retail goods are sold in the United Kingdom on the basis of the measurement of their quantity¹. Consumers need to be confident that they receive the quantity of goods they have paid for. And businesses need to be confident that they are trading in a fair marketplace².
- 2 To provide consumer protection and a fair marketplace the Government has established a system for regulating units of measurement; the design and use of weighing and measuring equipment, and the sale of goods by quantity (see examples at **Figure 1**). The legislation, which applies to England, Scotland and Wales, is made under the Weights and Measures Act 1985 and to implement European Community Directives. Regulating weights and measures for use in trade also ensures that competitive advantage is not gained purely through measurement systems in use; and improves overseas competitiveness by ensuring companies conform to international measurement and calibration standards.

1 Examples of short weight sales

Gainsborough Coal Merchant

The coal merchant was found by Lincolnshire County Council Trading Standards Officers to be using a 25 kilogram weight to weigh coal bags which actually weighed only 23.5 kilograms. The weight had been drilled in the bottom and filled with expanding foam. For this, and for having a large number of short weight bags of coal and two incorrect weighing machines, the merchant was prosecuted and ordered to pay £2,320 in fines and costs.

Building Supplies Company: Short Weight Sand

A customer complained to Northamptonshire County Council Trading Standards Department about having paid for five tonnes of sand but only receiving an amount which was 16 per cent underweight. Two test purchases by Trading Standards Officers of four tonnes were found to be 8.5 per cent and 11 per cent underweight. The company was also using equipment not suitable for measuring for the purposes of trade. It was prosecuted and ordered to pay £8,166 in fines and costs. The company director was fined £1,800.

Source: National Weights and Measures website; Lincolnshire County Council Trading Standards Service

1 National Weights and Measures Laboratory, National Measurement System: Legal Metrology Programme 1999-2002.

2 National Weights and Measures Laboratory website: The importance of legal metrology.

- 3 The main responsibility for consumer protection, the achievement of fair competitive markets, and the regulation of weights and measures used in trade, lies with the Department of Trade and Industry (the Department) and the National Weights and Measures Laboratory (the Laboratory), an executive agency of the Department. The legislation is intended to ensure that defined standards apply to weights and measures used for trade across the country. Enforcement of the legislation falls to the Laboratory in matters relating to the design of weighing and measuring equipment and to over 200 local authority Trading Standards Departments in matters relating to all other aspects. This report examines the extent to which:
- the Department has been able to identify the significant risks faced by consumers or businesses with regard to weights or measures used for trade;
 - the legislation addresses those risks; and
 - the Department can monitor how effectively weights and measures legislation is enforced.

Identifying and assessing the significant risks to consumers and businesses

- 4 Inaccurate weighing and measuring equipment or the consequent sale of goods sold under weight may have only a small effect at the level of individual transactions, but the overall effect across the economy can be considerable. For example, not providing full liquid measures of draught beer and cider allows licensees to sell an estimated 200 million more 'pints' a year than they buy in, at an estimated value of about £130 million at wholesale prices. And, in 2000-01, an estimated 94,700 (five per cent) of the over two million items of equipment inspected in service by Trading Standards Officers were found to be inaccurate. The Department's assessment of risks to fair trading is split between two units with responsibilities for overseeing different aspects of the legislation. Legislation on transactions in goods by weight or measure are overseen by the Department's Consumer and Competition Policy Directorate (the Directorate).



Those relating to weighing and measuring equipment for use for trade fall within the remit of the Laboratory. Although no documented overview of risks across the range of weights and measures legislation has been maintained, the Directorate and the Laboratory maintain formal and informal links between themselves and local authorities to exchange information on relevant issues.

- 5 The Directorate maintains contact with consumer and commercial interests through formal and informal means, including consulting on specific issues such as protecting the consumer against being served draught beer and cider in short measure. Weights and measures research can be funded from the Directorate's overall research budget. Although such funding has to compete with other research needs, which raises the possibility that not all weights and measures research may be done in a timely fashion, there has, to date, been sufficient funding available to meet identified research needs in the weights and measures area over the last five years. This research has often taken account of issues raised by interested parties outside the Department, such as consumer complaints and local authorities, or by developments at the European Community level. To date, three studies into testing net drained weight of foodstuffs and five studies into the use consumers make of quantity information have been carried out.

- 6 The Laboratory has a well-established programme of research with which to address issues relevant to the regulation of equipment, which allows it to identify and assess new and changing risks arising from technical aspects of weights and measures. The Legal Metrology³ Programme is run as part of the Department's National Measurement System. The current Programme, for the period 2002-05, has a budget of £7.4 million, of which about £2 million is most directly relevant to the identification and assessment of risks. Progress is measured with reference to task milestones although, before 2002-03, these only covered a third of the Programme's value. The extent to which the outcomes and achievements meet the Programme's objectives are not formally assessed in a way which allows success to be rated for each three-year programme and comparisons to be made between successive programmes. Achievement of task milestones will not, in itself, guarantee achievement of the Programme's objectives.

- 7 Trading Standards Departments are required to provide the Department with statutory annual returns containing information on weights and measures enforcement activity; the results of that activity; and the nature of any infringements identified. Information such as this is useful for identifying changes in the level and nature of enforcement and non-compliance, and any risks to consumer protection and fair trading these may represent. For the years 1990-91 to 1993-94, the Department undertook annual exercises to identify the level of weights and measures inspections carried out by Trading Standards Departments. In 2000, the Laboratory used available returns to try and establish a clearer picture of the state of local weights and measures work, but data quality problems led to no conclusions being drawn. And for the years 2000-01 and 2001-02, inspection levels were again analysed as part of work done to draft the Regulatory Reform Order on weights and measures due to come into force in 2004 (see paragraph 9). But no regular analysis of trends in the level of local weights and measures activity, or the results of that activity, has been carried out by the Department. Nor has it provided routine feedback to Trading Standards Departments on the information collected. In recent years, few authorities have provided this information on a regular basis. For the three years 1998-99 to 2000-01, only 61 (31 per cent) of the 198 Trading Standards Departments provided the Department with a return each year.

³ 'Legal metrology' focuses on the need for confidence and equity in measurements which directly concern the public, especially those measurements relating to efficiency in trade, public health and safety, and environmental monitoring. The National Audit Office report focuses on those aspects relevant to trade.

- 8 The legislation largely covers longstanding risks to achieving accurate, fair and legal weights and measures, and address blatant attempts to deliver short weight. They have been updated to a degree to reflect the impact of technology on the accuracy and reliability of weights and measures, for example, the inherent errors in automated packing systems. But the main body of legislation has become increasingly out of date, with much of the Weights and Measures Act 1985 being a consolidation of the Weights and Measures Acts of 1963, 1976 and 1979. The legislation has also become an increasingly complex combination of European obligations and domestic legislation. For example, goods which were only sold wholesale in the past, and not covered by the legislation, can now be bought retail in the same quantities (for example, Do-It-Yourself products) but remain outside the legislation. And the thresholds below which quantity information is not required to be provided differs depending on the product. The 1999 Consumer White Paper recognised that the age and complexity of the legislation 'confuses businesses and... consumers who have little, if any, idea of what they should see'⁴. This is particularly the case for new businesses who can find understanding the amount of legislation especially burdensome.
- 9 The Laboratory has carried out a programme of updating the technical aspects of the legislation since 1985 through work carried out as part of the Legal Metrology Programme. More generally, the Department has recognised the need to update and simplify the legislation, but progress has been slow. Consultations which started in 1999 on the general principles for simplifying and clarifying the law on the sale of goods by quantity had, at the time of the National Audit Office examination, not led to changes in the legislation. This was initially due to the lack of Parliamentary time for primary legislation. And consultations begun in late 2000 on a specific aspect of weights and measures legislation to improve consumer protection against draught beer and cider being served in short measure have made slow progress because the Department has not been able to achieve a consensus between trade and consumer groups and Trading Standards Departments on the best way forward. Alongside this exercise, the Department was engaged in a broader programme to overhaul the consumer provisions of the Fair Trading Act 1973 through the Enterprise Act 2002. This and the work underway on consumer credit took priority for legislative resources in this area. On broader weights and measures reform, the main changes needed, as they relate to packaged goods, will be made by a Regulatory Reform Order under the Regulatory Reform Act 2001 and a consolidated food order under the Weights and Measures Act 1985. Both are expected to come into force in 2004, following public consultation later this year. Consultations on improving the law relating to weighing and measuring equipment have been delayed awaiting the implementation of related European legislation, which is itself not expected to come into force until 2005 at the earliest.
- 10 Some aspects of weights and measures law have been deregulated to reduce cost burdens on industry. Since 1980⁵, manufacturers of non-automatic weighing machines (for example, shop counter scales) have been able to obtain a single design approval which is valid throughout the European Community instead of the separate approvals previously needed in each Member State. And from 1999⁶, manufacturers, installers and repairers of weighing and measuring equipment covered by Section 11 of the Weights and Measures Act 1985 have been allowed to 'self-verify' that equipment installed for use conforms with the approved design, rather than such checks being made by a Trading Standards Officer.



⁴ Department of Trade and Industry (1999), *Modern Markets: Confident Consumers*, paragraph 6.11.

⁵ *The Measuring Instruments (EEC Requirements) (Amendment No.3) Regulations 1979 (SI1979/1459)*.

⁶ *The Deregulation (Weights and Measures) Order 1999, SI 1999/503*.

Monitoring the enforcement of weights and measures legislation

- 11 New types of weighing and measuring equipment must receive 'type approval', normally from the Laboratory, before manufacturers can put them on the market. The Laboratory carries out most such work in the United Kingdom. The Laboratory does not collate information on instances of equipment found in use for which a type approval certificate does not exist, although it told the National Audit Office that such breaches were rare. The Laboratory has carried out limited investigations into the degree of conformity of installed equipment with the approved designs for such equipment but, again, does not collate regularly instances of non-conformity. Such information would be useful in identifying the extent to which installed equipment was bypassing the regulatory framework.
- 12 The Department is responsible for ensuring that the legislation is enforceable, but relies on local authority Trading Standards Departments to actually enforce the legislation governing the installation and use of weighing and measuring equipment and of the use of quantity information for the sale of goods, for which they have certain legal duties. This is one of a wide range of responsibilities Trading Standards Departments have who, typically, can be responsible for enforcing the requirements of over 80 Acts of Parliament, plus many more pieces of subordinate legislation. The Office of the Deputy Prime Minister in England, the Scottish Parliament and the Welsh Assembly Government have the lead within Government for developing a consistent approach to the improvement of local services generally. Within this framework, the Department oversees the weights and measures regulatory regime and relies on local enforcement to ensure that the regime contributes to achieving defined standards of consumer protection and fair trading, whilst recognising that variations in the level and nature of enforcement will exist between Trading Standards Departments to reflect local priorities.
- 13 The National Audit Office examined whether there were significant variations in the scale and results of enforcement work between Trading Standards Departments. The National Audit Office found that voluntary guidelines, applicable at the time, set by local government on the frequency with which business premises should be inspected, based on different levels of risk⁷, were not being fully applied. Under the guidance, high risk businesses should receive an annual visit, subject to local discretion to reflect other enforcement actions such as education and awareness campaigns. In 2000-01, on average, only 56 per cent of high risk businesses⁸ were visited by Trading Standards Departments. The lack of legal powers available to the Department to enable it to set minimum levels of inspection has meant it has not considered it appropriate to check that inspections have been carried out to the recommended frequencies.

"Every review of weights and measures has identified a lack of data and information on the national picture as a substantial problem when it comes to planning and securing resources."

DTI Legal Metrology Programme 2002-05

⁷ *The Local Authority Co-ordinators of Regulatory Services guidance recommends that high risk businesses should be inspected annually, medium risk businesses once every two years, and low risk businesses once every five years.*

⁸ *These are premises assessed as high risk for all purposes not just in relation to weights and measures. The risk rating does not always reflect the metrological risk. For example, a landfill site may have a low overall risk from a consumers point of view, but represent a high metrological risk because the weighbridge used to weigh incoming fill materials (as a basis for tax collection) could be subject to adverse environmental conditions.*

2 Variations in average weights and measures enforcement activity and levels of non-compliance with legislation, by type of local authority, 2000-01

	County Councils	Unitary Authorities	London Boroughs	Metropolitan Boroughs	Scottish Authorities	Welsh Authorities
% of premises liable for inspection for metrological purposes actually visited	16.1	16.6	21.2	28.4	39.4	28.4
% of equipment failed at verification stage	1.6	3.9	0.1	0.4	3.6	2.0
% of equipment failed when inspected	3.3	2.5	4.2	5.2	8.1	3.1
% of samples of packages failed when inspected at packaging plants	10.1	15.3	10.1	12.7	5.7	5.2
% of items failed when tested at retail outlets	6.0	9.9	5.5	8.6	4.2	20.0

NOTE

Figures based on 13 returns from County Councils; 14 from Unitary Authorities; nine from London Boroughs; 18 from Metropolitan Boroughs; 23 from Scottish authorities; and four from Welsh authorities.

Source: National Audit Office analysis of section 70 returns for 2000-01

- 14 Wide variations also exist in the average error rates found by different types of local authority (Figure 2). The Department is unable to say whether such differences are legitimate or not, in part because of a lack of regular analysis of the annual statutory returns from Trading Standards Departments (see paragraph 7 above) and the growing incompleteness of its database. The Department does not know whether the differences in the proportion of products inspected which were found to be inaccurate was due to greater vigilance on the part of some Trading Standards Departments; or due to more effective prevention and education programmes.
- 15 The Department has powers to inspect local authorities for the purpose of gathering information about arrangements for enforcing weights and measures legislation, but these powers were last used in 1964. This may be because there was no cause to use them. But recent studies by the Audit Commission⁹ and Accounts Commission¹⁰ have highlighted major variations in the levels and types of service provided by Trading Standards Departments, that suggest there would have been grounds for inspecting local arrangements in the interests of maintaining consistency nationally. However, these powers do not allow the Department to intervene to address cases of poor performance. Since 1999, local authority trading standards work, including weights and measures enforcement, has been covered by the Best Value inspection regime which includes powers to allow the appropriate Secretary of State to intervene where local authorities fail to provide best value. Any decision to intervene, however, must be based on an authority's performance against one or more Best Value performance indicators. Trading Standards work is covered by a single indicator which is now recognised as being inadequate for the purposes of identifying

⁹ Audit Commission (1999), *Measure for Measure: the best value agenda for trading standards services*, London.

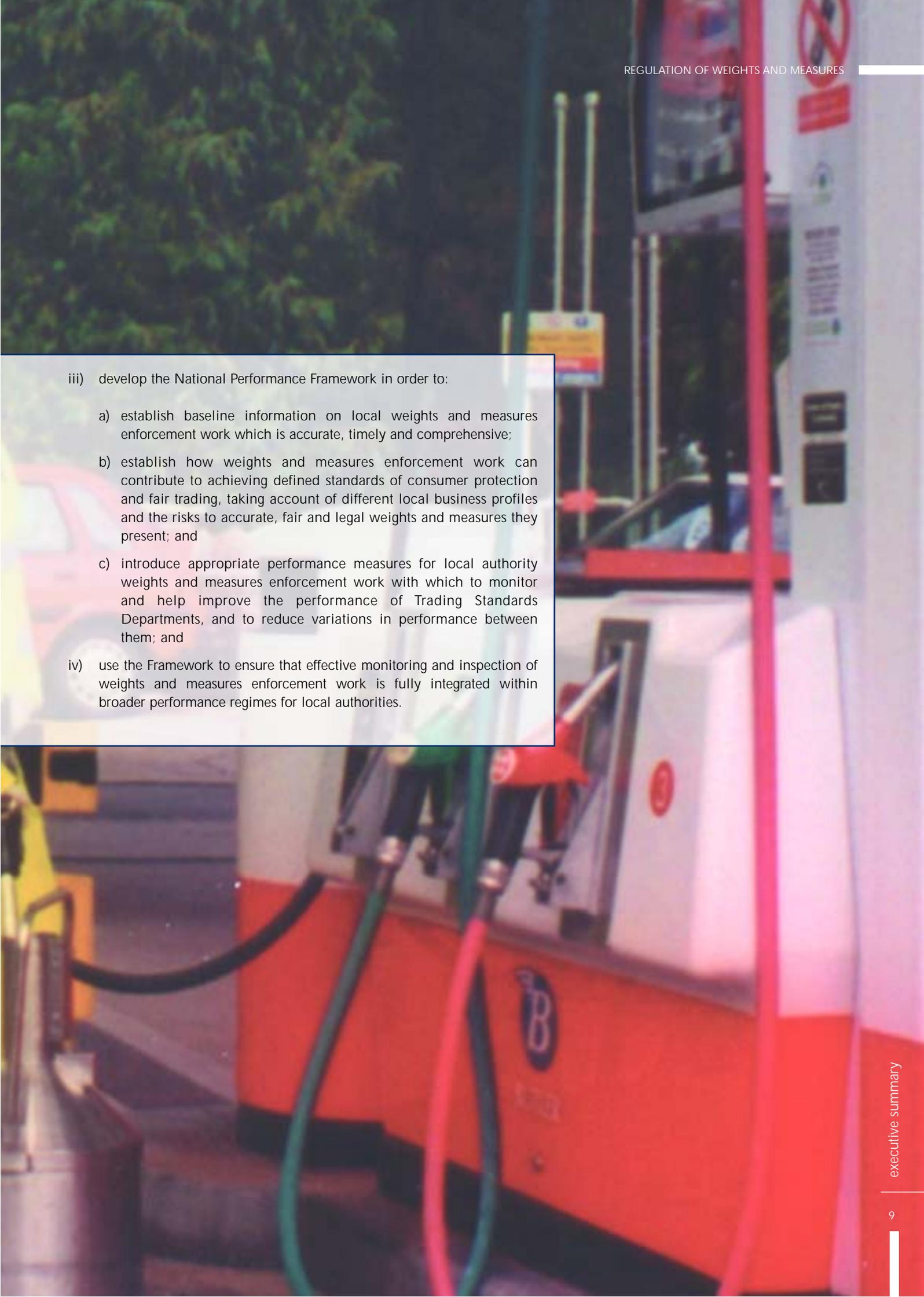
¹⁰ Accounts Commission (2002), *Made to measure? An overview of trading standards services in Scotland*, Edinburgh.

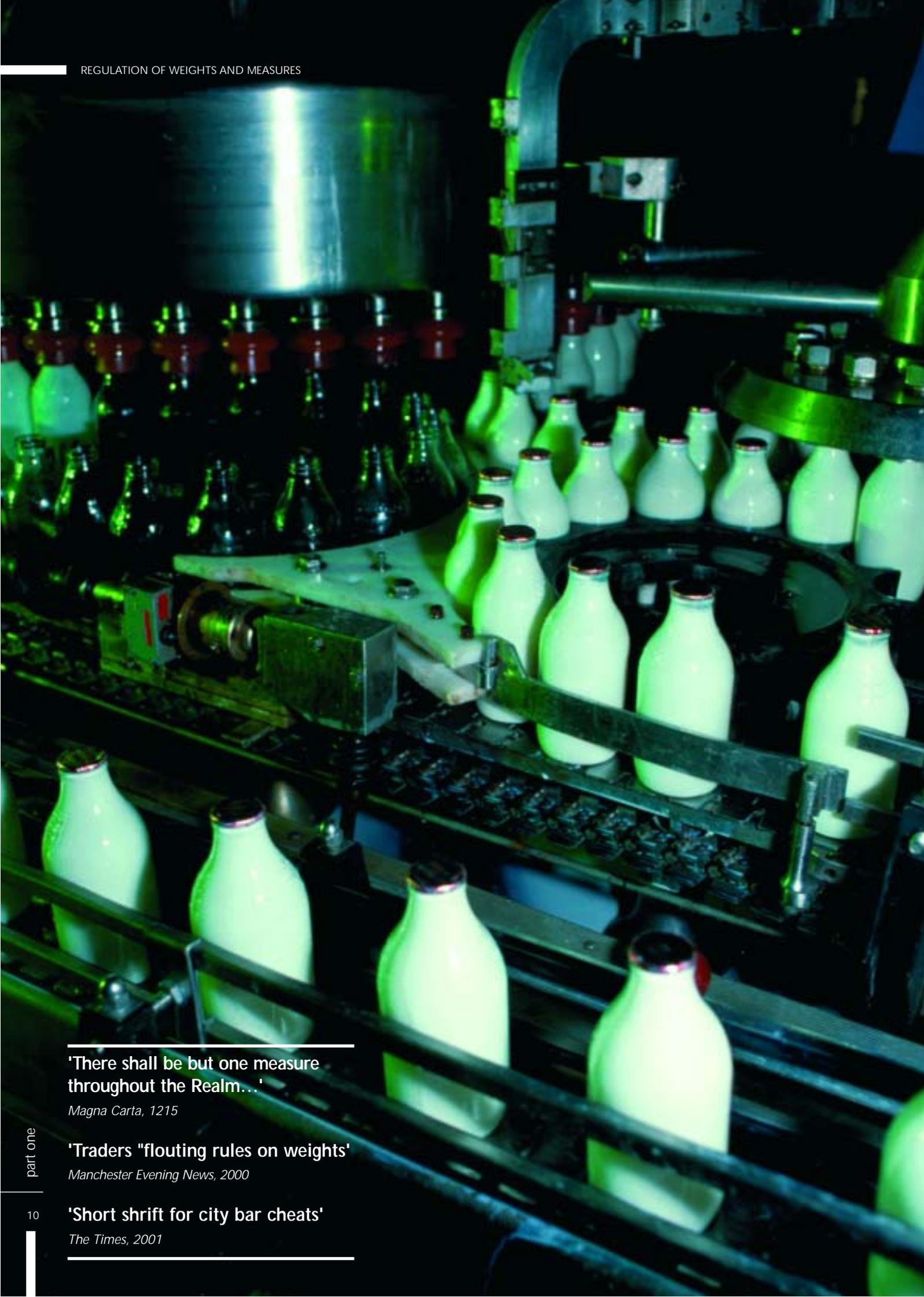
the extent to which best value has been achieved. In the absence of an appropriate indicator, regular Departmental analysis of the statutory returns it receives from local authorities could have helped to identify authorities where the level and effects of weights and measures enforcement work were widely different from the majority. This could have provided prima facie evidence of the need for further investigation by the Audit Commission to establish whether those variations were legitimate or represented a failure to achieve best value. However, the Commission would not be obliged, and sometimes not able, to conduct a Best Value inspection. So there has been no ready way for the Department to secure change in any case of weak local enforcement of weights and measures legislation.

- 16 The Department currently does not have sufficient information with which to set defined standards for trading standards work generally or weights and measures enforcement in particular. Lack of use of local enforcement data reflects concerns about the consistency of local data and therefore the reliability of the national picture. The Laboratory is carrying out work to gain a more reliable national picture as part of the 2002-05 Legal Metrology Programme. In addition, the Department and the Laboratory have taken the lead in developing, along with local authority Trading Standards Departments, a new *National Performance Framework for Trading Standards Services*. The Framework, which was introduced in April 2002, and requires local authorities to provide annual Service Delivery Plans and performance information returns, is intended to improve the consistency, performance and capability of Trading Standards Departments. By October 2002, 87 per cent of local authorities had provided their Service Delivery Plans. The Framework will be supported by a system of peer review, currently under development, designed to encourage improved planning and performance. Alongside the Framework, the Department is also seeking to raise the capabilities of Trading Standards Departments through supporting the training and skills development of Trading Standards Officers. In time the Framework should improve the quality of information available on local authority weights and measures enforcement. At the time of the National Audit Office review, the Department was consulting on the level and type of information local authorities would be required to provide. The information obtained will be fed back to local authorities, consumers and business by the publication of an annual report.
- 17 The Department currently has no means of measuring the effectiveness of Trading Standards Departments and the levels of compliance they achieve either across the full range of the legislation they have to enforce or in relation to weights and measures legislation in particular. The National Performance Framework will increase the quality and quantity of information available about trading standards performance generally, and the Department has proposed a number of performance measures, including one intended to measure compliance and the effectiveness of enforcement activity. This is a composite measure, relating to the full range of trading standards activity, which will not by itself help the Department to identify effectiveness and compliance levels with regard to weights and measures. At the time of the National Audit Office review, the Department had decided that it will collect information specifically on weights and measures enforcement as well, but was still consulting local authorities on the exact information to be included.

Recommendations

- 18** In order to ensure that the legislation is applied consistently, so that weights and measures used in trade are accurate, reliable and fair across the country, the Department should:
- i) develop a coherent and comprehensive overview of the risks to accurate, fair and legal weights and measures in order to ensure that identification and assessment cover the full range of potential risks and any interdependencies between them;
 - ii) urgently pursue the modernisation and simplification of weights and measures legislation which it has identified as being out of date and over-complex so as to provide a clear basis for effective enforcement by the Laboratory and Trading Standards Departments;

- 
- iii) develop the National Performance Framework in order to:
 - a) establish baseline information on local weights and measures enforcement work which is accurate, timely and comprehensive;
 - b) establish how weights and measures enforcement work can contribute to achieving defined standards of consumer protection and fair trading, taking account of different local business profiles and the risks to accurate, fair and legal weights and measures they present; and
 - c) introduce appropriate performance measures for local authority weights and measures enforcement work with which to monitor and help improve the performance of Trading Standards Departments, and to reduce variations in performance between them; and
 - iv) use the Framework to ensure that effective monitoring and inspection of weights and measures enforcement work is fully integrated within broader performance regimes for local authorities.



**'There shall be but one measure
throughout the Realm...'**

Magna Carta, 1215

'Traders "flouting rules on weights'

Manchester Evening News, 2000

'Short shrift for city bar cheats'

The Times, 2001

Part 1

The importance of weights and measures

Consumers and businesses need confidence in accurate weights and measures

- 1.1 Accurate and reliable weights and measures are fundamental to a sustainable trading economy. Every week around £1 billion worth of retail goods are sold in the United Kingdom on the basis of the measurement of their quantity¹¹. It is therefore vital that all trade measurement is accurate, fair and legal to buyer and seller. Consumers want assurance that the goods they purchase have been correctly weighed and measured. Without this assurance, accurate price comparisons are impossible. And businesses want confidence that they are trading in a fair marketplace - profits from the sale of commodities such as petrol are often dependent upon small margins and incorrect measures can therefore distort markets.
- 1.2 Consumers often cannot readily confirm that the quantity they have purchased is the actual amount received. For example, when buying petrol we have to rely on the accuracy of the display on the petrol pump. Similarly, when buying spirits in a pub, the purchaser needs to rely on the fact that the spirit measuring instrument will provide the right amount. And with some products, such as garden topsoil, it is impractical for the consumer to be able to re-weigh when it is delivered (**Figure 3**).
- 1.3 Businesses cannot easily check that the quantities of products being sold by competitors are accurate, and therefore cannot know whether other companies are enjoying an unfair competitive advantage, either accidentally, because their weighing and measuring equipment has started to operate outside acceptable tolerances (**Figure 4**), or as a result of deliberate short weight selling (**Figure 5**).

3 Short measure garden topsoil

In 2001, a customer ordered three cubic metres of topsoil from a local garden centre and nursery in Braintree, Essex. When the soil was delivered, the quantity provided raised concerns but a subsequent complaint was dismissed by the garden centre. When the amount of topsoil was measured by Essex Trading Standards Department, they found that only 1.92 cubic metres had been delivered, a short measure of 36 per cent. The garden centre and nursery were convicted and ordered to pay a total of £4,800 in fines and costs.

Source: National Weights and Measures Laboratory website; Essex County Council Trading Standards Department

4 The potential impact of inaccurate weighbridges

When Hampshire County Council Trading Standards Department checked 100 weighbridges, used for weighing vehicles carrying a wide variety of products including building materials, foodstuffs and recycled waste, they found that 20 per cent were inaccurate enough for Trading Standards Officers to take action.

One weighbridge had an error of 130 kilograms, more than three times the tolerance allowed. This represented a loss of about £3 for each lorry leaving the site, or the equivalent of nearly four litres of diesel. The error was quickly rectified but, with 10.6 billion tonnes per kilometre of building materials being transported by road in the United Kingdom in 2000, the impact on industry and consumers of adding £3 to the cost of transport for each journey could be as much as £250 million.

Source: National Weights and Measures Laboratory website; Hampshire County Council Regulatory Services Department

5 Short weight computer paper

In 1996, a company based in South Wales, which sold continuous computer listing paper in the Bath and North East Somerset area, was found to have provided to other businesses boxes of paper which contained fewer sheets of paper than the number marked on the box. On 15 occasions, boxes marked as containing 2000 sheets actually contained no more than 1,918 sheets and as few as 1,865 sheets. The company was prosecuted and ordered to pay a total of £10,000.

Source: Bath and North East Somerset Trading Standards Department

Maintaining confidence depends on regulation

- 1.4 In order to provide the confidence that consumers and businesses need in the interests of consumer protection and fair competitive markets, the Government regulates the units and standards by which measurement for trade can be lawfully carried out; the design and use of weighing and measuring equipment; the provision of quantity information; and the sale of goods by quantity. Legal metrology¹², forms part of the National Measurement System which has been recognised as having economic benefits - contributing an estimated £5 billion a year to the growth in United Kingdom Gross Domestic Product¹³. The regulation of weights and measures has the potential to address market failure, particularly in the case of small and medium businesses, as the example of 'warm petrol' shows (Figure 6). Industry also benefits from the standard setting procedures within legal metrology which allow compliance with global standards and hence the ability to compete overseas¹⁴. On the non-economic side, legal metrology can enhance consumers' and traders' quality of life through the peace of mind that comes from knowing there is a system for ensuring that accurate, fair and legal weights and measures are used in trade.
- 1.5 The legislation is driven by the Weights and Measures Act 1985, which applies to England, Scotland and Wales, and a number of European Community Directives and Regulations. Responsibility for establishing and maintaining the regulatory framework for weights and measures lies with the Department of Trade and Industry (the Department) and the National Weights and Measures Laboratory (the Laboratory), an executive agency of the Department. Enforcement of the legislation falls to the Laboratory in matters relating to the design of weighing and measuring equipment; and to over 200 local authority Trading Standards Departments for all other aspects. The system of control is summarised in Figure 7.

6 'Warm petrol' - how regulating weights and measures used in trade could address the issue of market failure

Petrol is supplied by oil companies to petrol retailers and sold to consumers on the basis of volume, not mass. Variations in the ambient temperature of petrol affects its volume. The Petrol Retailers Association has argued that petrol stations receive less fuel from oil companies than they have to pay for. Fuel is measured by volume on to road tankers while the fuel is above ambient temperature. By the time the petrol is sold at petrol stations it has cooled and reduced in volume. Vapour loss on delivery also results in less fuel being delivered than was loaded into the road tanker. The banning of the use of dipsticks on new road tankers (to prevent vapour loss to the atmosphere) means that petrol retailers have to accept the loading ticket as evidence of the quantity they are receiving.

Independent retailers, who are often small or medium sized businesses, have to compete with the bulk buying powers of supermarkets and the terms and conditions which large oil companies can agree with their outlets. The profit margins on the sale of petrol are low and the relatively small losses incurred as a result of delivery of petrol at higher than ambient temperature can have a substantial effect on profitability, which smaller petrol retailers are less able to cope with. The Petrol Retailers Association has estimated that the total loss of revenue to small retailers due to losses in petrol because of 'warm' delivery is £80 million per year. It is estimated that petrol loss is a significant factor in at least 650 of the 1,300 petrol retail outlets which close each year.

Legislation does not exist which would address this issue but if it did, such regulation could realise economic benefits estimated at £93 million per year, as a result of a reduction in job losses and increased sales revenue for petrol retailers. The case for regulation is based on the fact that there is no incentive for petrol suppliers to correct the situation due to the cost to them of complying with any new legislation and a reduction in benefits they enjoy from supplying petrol at higher than ambient temperatures. This reduction has been estimated by the National Engineering Laboratory (in a study carried out on behalf of the National Weights and Measures Laboratory) at £15 million per year. Intervention, through regulation, could lead to fairer competition and, potentially, reduced market failure. The cost of implementing any legislation has been estimated as a one-off cost of £75 million.

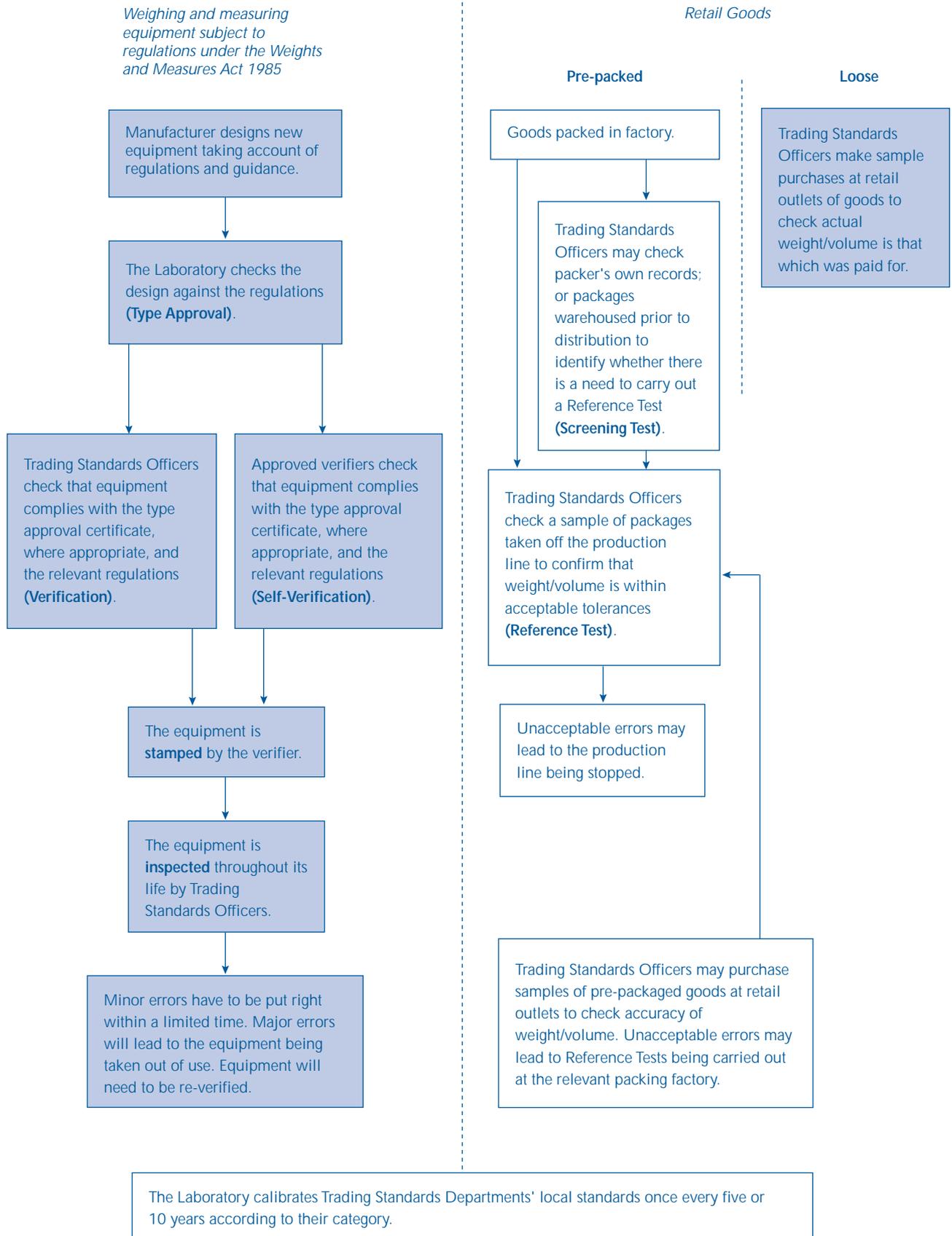
Source: PA Consulting Group (1999), *Review of the Rationale for and Economic Benefit of the UK National Measurement System*; and National Weights and Measures Laboratory (2002), *National Measurement System, Science and Technology Programme - Legal Metrology Programme 2002-2005*.

12 'Legal metrology' focuses on the need for confidence and equity in measurements which directly concern the public, especially those measurements relating to efficiency in trade, public health and safety, and environmental monitoring. The National Audit Office report focuses on those aspects relevant to trade.

13 PA Consulting Group (1999), *Department of Trade and Industry National Measurement System Policy Unit - Review of the Rationale for and Economic Benefit of the UK National Measurement System*.

14 SQW(2002), *Productivity Contribution of Major DTI Programmes and their Value for Money*.

7 A summary of the system of control over weights and measures used in trade



Source: National Audit Office analysis of enforcement processes

The scope of the report

1.6 In 2000, the Better Regulation Task Force issued a good practice guide on regulation¹⁵. Among the principles set out was the importance of aiming legislation at defined problems; the need to review legislation to test whether they remain necessary and effective; and the need to ensure that those enforcing the legislation do so consistently across the country. The weights and measures legislation is intended to ensure that defined standards apply to the use of weights and measures in trade across the country. Consumer protection and fair trading would not be served by the accuracy and reliability of weights and measures being allowed to differ in different parts of the country. The legislation and its enforcement provide a system of control which aims to ensure that weighing and measuring equipment is reliable and quantity information is accurate. Against this background, this report examines the extent to which:

- the Department has been able to identify the significant risks faced by consumers or businesses with regard to weights or measures used for trade;
- the legislation addresses those significant risks; and
- the Department can monitor how effectively weights and measures legislation is enforced.

Details of the methodology we used to carry out the study are set out in the Appendix.

Part 2

Identifying the significant risks to accurate, fair and legal weights and measures

Inaccurate weights and measures used for trade can have a significant effect

- 2.1 The effect of inaccurate weights and measures being used for trade, whilst not high at the level of the individual transaction, is significant for the economy as a whole. For example, not selling full liquid measures of draught beer and cider allows licensees to sell about 200 million more 'pints' a year than they buy in from brewers and wholesalers, at an estimated value of about £130 million at wholesale prices. In 2000-01, estimates¹⁶ based on available evidence indicate that:
- 700,000 premises were using weights and measures in some form for the purposes of trade, which represented 39 per cent of the 1.8 million premises liable for inspection by Trading Standards Departments;
 - 13,100 items of equipment failed at the verification stage (less than one per cent of over three million items examined);
 - nearly 94,700 (five per cent) of the over two million items of equipment subsequently inspected in service failed;
 - 10,200 (10 per cent) of the 105,000 samples of packages tested at packing plants were found to be incorrect; and
 - 77,100 (four per cent) of the 2.1 million items tested at retail outlets, were found to be incorrect.

Risks to accurate, fair and legal weights and measures can arise for a number of reasons, and the nature of those risks can change over time. The ability to identify, monitor and assess the significance of different risks requires being able to take a comprehensive view across all possible risks and the degree to which they relate to each other.

Responsibility for overseeing the legislation is split within the Department

- 2.2 Responsibility for oversight of the regulations is divided within the Department as follows:
- **the Department's Consumer and Competition Policy Directorate** (the Directorate) is responsible for the regulations relating to statutory definitions of units of measurement and units that are lawful for use; ensuring that certain products be sold by quantity; certain pre-packed goods show a quantity indication; and that where quantity is shown, buyers can rely on it (Parts IV and V of the 1985 Act); and
 - **the Laboratory** is responsible for the legislation relating to actual physical standards of units of measurement; and the design of weighing and measuring equipment (Parts I, II and III of the 1985 Act); it is also responsible for European Community Directives on measuring instruments which fall within its field.
- 2.3 The Directorate and the Laboratory, whilst working separately on their particular areas of responsibility, have a number of formal and informal links, including representation on relevant Boards and Working Groups. This allows each to develop the expertise needed to provide accurate and effective advice on what can be complex and technical legislation, which increasingly has to take account of European and other international agreements; and the means to inform each other of relevant developments in their area of responsibility. But these co-ordination mechanisms do not constitute a complete overview of weights and measures legislation.

¹⁶ Estimates have been grossed up from figures based on information from those local authorities who provided returns in 2000-01 (see paragraph 2.12).

Technical risks are better monitored and assessed than other risks

2.4 Maintaining an up to date view of the risks to achieving accurate, fair and legal weights and measures requires regular information on which to base any assessment of changes in those risks and to judge whether the legislation continues to be adequate to deal with them. In this respect, the Directorate and the Laboratory use different methods with which to gather information. This information is not brought together to provide a single documented risk assessment covering all aspects of weights and measures legislation.

Information on non-technical risks is gathered in a more ad-hoc manner

2.5 The Directorate maintains formal and informal contact with consumer and commercial interests, and local authorities, with regard to those aspects of the weights and measures legislation for which it is responsible. The Directorate has undertaken a number of consultation exercises with regard to modernising the law on the sale of goods sold by quantity¹⁷, including tightening consumer protection against being sold short measure when buying draught beer and cider^{18, 19}. These exercises have provided an opportunity for the Department to identify concerns amongst industry and consumers about the risks to accurate, fair and reliable weights and measures. In order to identify the risks, costs and benefits of the changes proposed in the consultation exercises, each was accompanied by a Regulatory Impact Assessment²⁰. Early assessments, whilst describing some of the costs and benefits to consumers and businesses in qualitative terms, lacked any quantification of what those costs and benefits might be. However, in the case of draught beer and cider, a second consultation did include extensive quantification of costs.

2.6 The Directorate also commissions external research when it considers it necessary to secure more information about a particular issue. These are often raised by organisations outside the Department, including Trading Standards Departments, consumer groups, manufacturers and retailers; or in response to

European Community developments. The Directorate has a budget to cover research across its areas of responsibility from which funding can be provided for weights and measures-related research. In 2002-03, total funding of £850,000 was available. Since 1997 the Directorate has commissioned three external studies on technical issues associated with testing the drained net weight of products pre-packed in added liquid or ice glaze, at a total cost of £35,000; and five studies into consumer attitudes to quantity information and the role such information plays in consumers making value for money comparisons at a total cost of £140,000. The Directorate also takes account of research undertaken by other organisations. These arrangements provide a degree of capability, but the fact that funding for weights and measures research has to compete with other research priorities within the Directorate raises the possibility that not all weights and measures research will be done in a timely fashion; although to date no research project has been turned down for funding, or has had to be delayed or abandoned because of lack of funding.

There is a well-established programme of research on technical risks

2.7 Every three years the Laboratory and the National Measurement System Directorate within the Department agree a programme (the Legal Metrology Programme) as part of the National Measurement System²¹ specifying the work the Laboratory will do on the Department's behalf in the field of legal metrology. Its content is driven largely by the Weights and Measures Act 1985, European Community legislation and the International Organisation of Legal Metrology. It provides an opportunity to address emerging issues relating to the regulation of equipment, and enables them to identify and assess new and changing risks arising from technical aspects of weights and measures, including matters of concern to industry and consumers. The current Programme, which runs from 2002 to 2005, has a value of £7.4 million; of this about £2.2 million²² is on work which is most directly relevant to the identification and assessment of risks.

¹⁷ Department of Trade and Industry (1999), *Fair measure: a consultation on modernising the law on the sale of goods sold by quantity*.

¹⁸ Department of Trade and Industry (2000), *Measures of draught beer and cider: Public consultation paper on proposed legislative changes under the Weights and Measures Act 1985*.

¹⁹ Department of Trade and Industry (2002), *Draught beer and cider: Public consultation on proposals to tighten consumer protection against short measure*, CA 003/02.

²⁰ *A Regulatory Impact Assessment sets out the risks, costs and benefits of any new regulatory proposal which has an impact on businesses, charities and voluntary bodies*.

²¹ *The National Measurement System is the infrastructure of laboratories and services which ensure that users can be confident that their measurements and those of their customers and suppliers are consistently traceable back to nationally and internationally accepted primary reference standards - and are therefore both valid and fit for purpose. The System supports measurement for use in trade, industry, academia and government*.

²² *The £2.2 million is made up of £0.2 million on work on fuel related legislation responding to concerns amongst petrol retailers that they receive less fuel from oil companies than they pay for due to changes in temperature whilst in transit to petrol stations; £0.4 million on the Laboratory's work in ensuring that regulations are applied consistently and correctly throughout the United Kingdom; and £1.5 million on raising awareness of weights and measures used in trade and responding to specific issues and queries from stakeholders*.

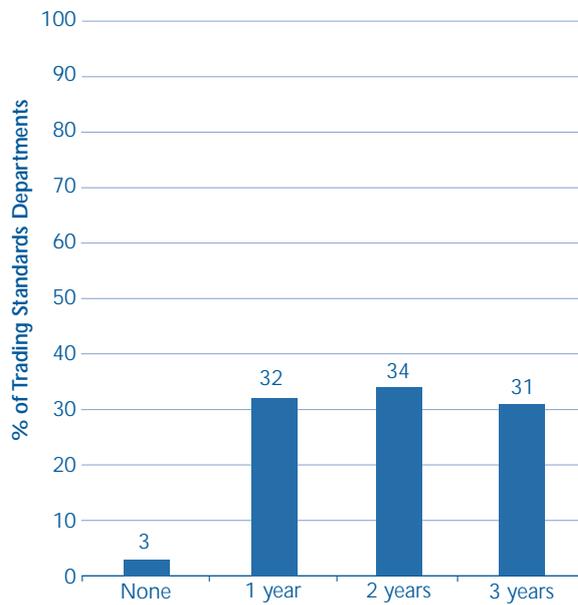
- 2.8 The Programme includes: reviewing and producing legislation which seeks to protect the consumer and competitive markets; representing the United Kingdom's interests overseas; maintaining facilities so that the Laboratory can, for example, test whether weighing and measuring equipment is accurate, fair and legal; and supporting the work of Trading Standards Departments, including providing information to them, manufacturers and other enquirers to enhance understanding of the system for regulating weights and measures. It addresses both statutory requirements and specific issues of interest to stakeholder groups. For example, as part of the 1999-02 Programme, the Laboratory responded to concerns raised by licensees and introduced an Order²³ which allows the use of 70ml 'double' spirit measures.
- 2.9 To provide an external view of what should be included in the Programme, therefore, the formulation procedure also includes consultation with interested parties such as the Consumers Association, the Trading Standards Institute and the Local Authority Co-ordinators of Regulatory Services, as well as with a working group made up of unpaid volunteers representing a variety of stakeholders including manufacturers.
- 2.10 The Laboratory's performance in delivering the Programme is measured by reference to two key targets, one measuring the proportion of task milestones delivered by due dates, the other aimed at assessing the extent to which the Programme as a whole has been completed. However, the measures they have been using provide only a partial view of progress. Up to 2001-02, the milestone target covered only 35 per cent of the value of the Programme. From 2002-03 all of the Programme will be covered by milestones which will improve the coverage of the target. However, final milestones - which should signal the completion of the objective - have no separate status or greater weighting than interim milestones which chart progress towards an objective. For some ongoing aspects of the Programme, such as the provision of advice and responding to enquiries, differential weighting may not be appropriate; but for other, more project-based elements, it will help to ensure that objectives are fully completed. This helps to avoid the situation where the majority of funds on a project have been used but the final milestone, and the often significant benefits which only come with achievement of that milestone, remain unrealised. In addition, although the high legislative and policy content of the Programme may mean that conventional measures of research quality may not be appropriate, the quality of work, in terms of the extent to which the outcomes and achievements have met the Programme's objectives, have not been subject to formal assessment by the Department in a way which allows it to rate the success of each three-year programme or make

comparisons between successive programmes. The National Measurement System Directorate monitors the Laboratory's performance through a series of monthly, quarterly and annual reports, and an annual review by the Programme's working group. But the focus is on monitoring progress by task against milestones which, in itself, will not guarantee achievement of the Programme's objectives.

Risk assessment could have made more use of information on local compliance with the legislation

- 2.11 Data has been available to the Department since 1988 which is relevant to building up a national picture of the risks to weights and measures and how those risks change over time. Trading Standards Departments are required, under section 70 of the Weights and Measures Act 1985, to provide annual returns containing information on the weights and measures enforcement activity; the results of that activity; and the nature of any infringements identified. Changes in the levels of compliance and in the nature of non-compliance over time can help to identify where legislation may need to be extended or even removed. However, these returns have not been regularly analysed by the Department. Returns for the years 1990-91 to 1993-94 were analysed by an external consultant to identify Trading Standards Departments whose performance with regard to the level of weights and measures activity was particularly low. In 2000, the Laboratory analysed returns for a number of Trading Standards Departments over a number of years as part of work intended to help establish a clearer picture of the state of local weights and measures work, but concerns over the quality of some of the data led to no conclusions being drawn. And the Directorate analysed available returns for the years 2000-01 and 2001-02 to identify the extent to which business premises were being visited by Trading Standards Departments for weights and measures purposes, as part of preparation for the Regulatory Reform Order to be introduced in 2004 (see paragraph 3.8). Apart from these exercises, the Department has not sought to analyse the returns on a regular basis in order to identify trends over time in levels of weights and measures activity or the results of that activity. Nor has it provided routine feedback to Trading Standards Departments on the information collected. However, the information obtained through the National Performance Framework for Trading Standards Services, introduced in April 2002 (see paragraph 4.15), will be fed back to local authorities, consumers and business by the publication of annual reports.

8 The percentage of Trading Standards Departments providing section 70 returns in each of the years 1998-99 to 2000-01



Source: National Audit Office analysis of section 70 returns for the years 1998-99 to 2000-01

2.12 Furthermore, Trading Standards Departments are required by statute to provide these returns, but in recent years, not all authorities have provided this information on a regular basis. **Figure 8** shows that for the three years 1998-99 to 2000-01, only 61 (31 per cent) of the 198 Trading Standards Departments provided the Department with a return each year. Six authorities provided no returns at all over this period.

Part 3

Matching legislation to risks

3.1 Good legislation should be targeted at where problems exist and be easy to understand if they are to be effective²⁴. Part 3 looks at the extent to which weights and measures legislation covers the most significant risks and the steps the Department have taken to ensure the legislation is easy to understand.

Existing legislation covers most longstanding risks and blatant attempts to sell short weight or measure

3.2 **Figure 9** identifies the most significant risks to achieving accurate, fair and legal weights and measures, and compares those risks with the legislation.

9 Significant risks to weights and measures and how they are covered by the legislation

Significant risks	Are they covered in the legislation?
The design of weighing and measuring equipment will lead, either accidentally or deliberately, to inaccurate quantities being sold. Weighing and measuring equipment which has been installed does not conform with the approved design.	The suitability for use for trade of the design of weighing and measuring equipment has to be approved before that equipment is allowed to be placed on the market. No piece of weighing and measuring equipment can be used for trade until it has been passed as fit for use (verified) by an inspector and 'stamped' as proof that it has been passed.
Equipment ceases to provide accurate, fair and legal weights or measures after installation due to either wear and tear or deliberate tampering. Public weighing or measuring equipment, for which a charge is made (for example, weighbridges) will not be operated properly.	Inspectors have powers to inspect and test weighing and measuring equipment in use to ensure that they continue to operate within acceptable tolerances. Operators of public weighing and measuring equipment must hold a certificate issued by a Chief Inspector of Weights and Measures before they can operate. Such equipment can be subject to routine inspections to check that they continue to operate within acceptable tolerances.
Consumers will not know how much of a produce they are purchasing. Automated packing processes will lead to unacceptable variations in the weight of individual packages.	Certain products and packages are required to show quantity markings. The weight of individual packages is controlled by the average quantity system, whereby automated packing processes are required to produce individual packages whose weight or volume must fall within prescribed limits either above or below a nominal value.
Goods will be sold short weight or in short measure. Units of measurement used to assess compliance with the legislation will not be consistent across the country.	Trading Standards Officers have statutory powers to enter premises to inspect equipment and make sample purchases of products to check that quantities are accurate, fair and legal. 'Working' standards used by Trading Standards Officers have to be calibrated to local standards held by Trading Standards Departments, which are themselves calibrated to national standards by the Laboratory.
Inspectors will not have the necessary skills to enforce the legislation effectively.	Each local authority has to appoint a suitably qualified Chief Inspector of Weights and Measures. Trading Standards Officers have to hold prescribed qualifications in order to carry out their statutory duties. The Department has the power to inspect local authority arrangements for enforcing weights and measures legislation.

Source: National Audit Office analysis of the Weights and Measures Act 1985

The legislation largely covers longstanding risks; and blatant attempts to sell short weight or short measure goods; to fail to inform, or to mislead the consumer on quantity.

But much of the legislation has become increasingly out of date

3.3 Whilst covering the significant risks, the legislation has become increasingly out of date in many respects. The Weights and Measures Act 1985 is largely a consolidation of requirements set out in the Weights and Measures Acts of 1963, 1976 and 1979. Much of the legislation in force today is, therefore, nearly 40 years old. As a result, anomalies have arisen and in some respects the legislation has failed to keep up with technological developments:

- nails need to be sold by weight or number but screws or tacks do not;
- bias binding needs to be sold by length but velcro does not;
- writing paper needs to be sold by number of sheets but photocopying or typing paper do not;
- goods which were only sold wholesale in the past, and not covered by the legislation, can now be bought retail in the same quantities (for example, Do-It-Yourself products) but remain outside the legislation; and
- different pre-packed products have different thresholds above which quantity markings are required (for example, above 5g for rice, but above 50g for biscuits and sugar).

Where products remain outside the legislation, there is no requirement for quantity information to be shown; although if a statement of quantity is voluntarily provided that product comes within the legislation as well. Consumers can, therefore, be deprived of the information they need to compare one such product with another. Similarly, technological advances, based on electronic or computerised processes, make it more difficult for those enforcing the legislation to know whether weighing and measuring equipment is compliant.

3.4 There has been some recognition of the effect of technology on the accuracy and reliability of weights and measures; and the Laboratory have undertaken a programme of updating the technical aspects of the legislation through work carried out as part of the Legal

Metrology Programme. Part V of the Weights and Measures Act 1985 implemented European Community Directives which required Member States to introduce the average system of quantity control for certain pre-packaged goods. This was a departure from the traditional system, dating back to the Magna Carta, where quantity controls were based on ensuring that the buyer received at least a minimum quantity. The move to the average quantity system²⁵ is a recognition that there are inherent errors in all weighing and measuring equipment, especially automated packing systems.

3.5 Technological innovation has also increased the accuracy and reliability of the manufacture and installation of weighing and measuring equipment so that there is less need for an inspector of weights and measures to verify the installation or repair of every piece of equipment. Recognition of this led to the deregulation²⁶ in 1999 of the verification procedures on certain types of new and repaired equipment (for example, petrol pumps). Since then, manufacturers, installers or repairers with appropriate quality systems have been allowed to 'self-verify' that installed equipment conforms with the approved design, rather than such checks being carried out by Trading Standards Officers. In addition, from 1980, manufacturers of non-automatic weighing instruments (for example, shop counter scales) have been able to obtain a single design approval which is valid throughout the European Community rather than seek separate approvals in each Member State as was needed before. Other changes to secondary legislation have reflected the introduction of new technology, for example, the use of automatic filling instruments which sub-divide products such as snack foods from bulk into pre-determined quantities.

The legislation has also become increasingly complex

3.6 The growth in legislation, however, has meant that it has become an increasingly complex combination of European obligations and domestic legislation. They have also been framed to reflect the recommendations and guidance of international bodies such as the International Organisation of Legal Metrology. In 1998, the Better Regulation Task Force²⁷ concluded that weights and measures legislation on packaged goods was too complex and did not aid consumer protection. Many of the industry associations and Trading Standards Departments the National Audit Office spoke to in the course of this examination confirmed that this was still the case. For example, the two European Community Directives²⁸

25 *The actual quantity of product in a batch of packages may not be less on average than the quantity indicated on the packages, and no packages in the batch may be deficient by more than the specified tolerances. That is, a proportion of packages may be under-filled within the permitted tolerance, provided that there is compensating over-fill in the other packages.*

26 *The Deregulation (Weights and Measures) Order 1999, SI 1999/503.*

27 *Better Regulation Task Force (1998), Better Regulation Task Force Review: Consumer Affairs, Central Office of Information.*

28 *Directive 75/106/EEC on the making-up by volume of certain pre-packaged liquids; Directive 76/211/EEC on the making-up by weight or volume of certain pre-packaged products.*

'From consultations and discussions over many years it has been made clear to the DTI that businesses, local government bodies, trading standards organisations and others consider[legislation on packaged goods] to be unnecessarily burdensome, complex and of disbenefit to consumers.'

Better Regulation Task Force Review of Consumer Affairs, 1998.

which introduced the average quantity system run to 12 pages. The United Kingdom legislation which implements these Directives comprises more than 100 pages of primary and secondary legislation, plus guidance notes for packers and inspectors and codes of practice for certain industry sectors. Complexity arises from the need to ensure that permitting deficiencies in a small proportion of packages does not result in a systematic short measure in all packages. But the 1999 Consumer White Paper recognised the problem that complex and outdated legislation can present, concluding that it 'confuses businesses and... consumers who have little, if any, idea of what [quantity information] they should see'²⁹. New businesses, in particular, face a steep learning curve with regard to the average quantity system which is particularly burdensome for small traders. Misunderstandings about the requirements can lead to incorrect information being provided which in turn can adversely affect consumers. Complex legislation is also harder to enforce in a consistent manner. Growing uncertainty with some aspects of weights and measures legislation is reflected in the debate about how much liquid a consumer is entitled to receive when ordering a draught pint of beer or cider (**Figure 10 overleaf**). Such uncertainty increases the risk of non-compliance with the legislation.

The Department has endeavoured to update and simplify the legislation but progress has been slow

3.7 Following the 1999 White Paper, in the same year, the Department started consultation on modernising the law on those parts of the Weights and Measures Act 1985 which related to the sale of goods by quantity³⁰. Initially, the Department had intended to replace Parts IV and V of the Weights and Measures Act 1985 with primary legislation introduced through the Consumer Protection Bill, but the Bill eventually fell in 2000 due to the lack of Parliamentary time for primary legislation. In 2000³¹ and 2002³², the Department consulted on the specific issue of clarifying the law about what constitutes a 'full' measure of draught beer and cider. But progress has been slow due to the Department not

being able to achieve a consensus between trade and consumer groups, and Trading Standards Departments on the best way forward without increasing the price of beer generally. Alongside this exercise, the Department was engaged in a broader programme to overhaul the consumer provisions of the Fair Trading Act 1973 through the Enterprise Act 2002. This and the work underway on consumer credit took priority for legislative resources in this area. The Department has introduced voluntary codes instead of legislation (for example, on testing the accuracy of indications of drained net weight) and started discussions on other codes (for example, minimum fill levels in packaged breakfast cereals). But the absence of a slot in the primary legislative programme has hampered progress on achieving a more fundamental update of the legislation, as any changes must consequently be limited to the scope and vires of secondary legislation.

3.8 In the short term, the main changes on packaged goods are being taken forward by a Regulatory Reform Order, which is expected to come into force in 2004; and by a consolidation of seven orders regulating pre-packaged foodstuffs. In the longer term, the European Community is committed to a major update and simplification of Community legislation on packaged goods, following a review under the Community's Simplified Legislation for the Internal Market programme.

3.9 The introduction of self-verification of weighing and measuring equipment introduced in 1999 represents a degree of progress in improving the law on those aspects of the Weights and Measures Act 1985 which relate to the design, installation and use of weighing and measuring equipment. However, more generally, there has been a lack of progress in updating the legislation with regard to these aspects too. Consultations on these aspects were planned to start in 1999 but have been delayed awaiting the implementation of the European Community Measuring Instruments Directive. The Directive is intended to extend the single market for measuring instruments and take account of technological progress and new types of instruments, but it is not expected to come into force until 2005 at the earliest.

²⁹ Department of Trade and Industry (1999), *Modern Markets: Confident Consumers*, paragraph 6.11.

³⁰ Department of Trade and Industry (1999), *Fair measure: a consultation document on modernising the law on the sale of goods sold by quantity*.

³¹ Department of Trade and Industry (2000), *Measures of draught beer and cider: public consultation paper on proposed legislative changes under the Weights and Measures Act 1985*.

³² Department of Trade and Industry (2002), *Draught beer and cider: public consultation on proposals to tighten consumer protection against short measure*, No. CA 003/02.

10 The 'froth on beer' debate

Current legislation on beer measures date from the Weights and Measures Act 1963. The 1963 Act was silent on whether the gas in the head of froth is part of the measure.

Subsequent case law failed to remedy this uncertainty. Some of the cases only concluded that what constitutes a pint of beer depends on the particular facts of each case, bearing in mind local expectations and the type of beer. The Weights and Measures Acts 1979 and 1985 both provided that gas was not part of the measure but the provision was not brought into force in either case (an Order was made in 1992 which would have brought the relevant section of the 1985 Act into force in 1994, but this was revoked in 1993).

In the 1997-98 Parliamentary Session, a Private Members Bill, the Weights and Measures (Beer and Cider) Bill was sponsored by Mr Dennis Turner MP, which would have restored the relevant section of the 1985 Act. However, the Bill fell at the Report Stage in the House of Commons.

Surveys carried out in 1997 showed that the licensing trade's voluntary guidelines that liquid should form at least 95 per cent of the measure were widely disregarded. Surveys indicated that the proportion of 'pints' with less than this amount of liquid ranged from 14 per cent to 70 per cent. The Department estimated that licensees who serve less than full liquid measures collectively sell about 200 million more 'pints' per year than they buy from brewers and wholesalers. The annual value of such short measure is estimated to be about £130 million at wholesale prices.

There has been no clear consensus on whether measures of beer and cider should be defined as 95 per cent or 100 per cent liquid. The licensing trade supported the lower limit on the grounds that 100 per cent would require licensees to over-fill in order to avoid the risk of under measure, with an extra annual cost of £250 million. Trading Standards Departments, however, were concerned that less than 100 per cent liquid would set a precedent for other goods to be sold at less than their stated quantity.

Source: Department of Trade and Industry (2000), Measures of draught beer and cider: public consultation paper on proposed legislative changes under the Weights and Measures Act 1985.

Part 4

Monitoring the enforcement of weights and measures legislation

Maintaining confidence in weights and measures legislation depends on enforcement

4.1 Enforcement is a vital part of any regulatory regime, as legislation is of little value if it is widely disregarded. Consumer and business confidence that weights and measures used in trade are accurate, fair and legal depends on such a regime being effective and consistently applied across the country. Research sponsored by the Department³³ indicated there are a number of reasons why consumers paid little attention to quantity information on packaged goods. These included assumptions by consumers that retailers would not stock products which were deceptively packaged (46 per cent of those consulted); or that they were adequately protected by the enforcement regime (40 per cent). Enforcement does not just involve penalties and sanctions against those who fail to comply, but also involves educating consumers and businesses as to what the requirements of the law are.

Design and calibration requirements are enforced by the Laboratory

4.2 The enforcement of weights and measures legislation is divided between the Laboratory and local authority Trading Standards Departments. Up until 1975, the Laboratory was the sole grantor of 'national' type approval certificates for all new designs of measuring equipment intended for use in the United Kingdom to ensure they were capable of providing accurate weights and measures. Between 1975 and 1980, the Laboratory also began to carry out 'European' type approval work for certain types of equipment which were intended for use either in the United Kingdom or in other parts of the European Community. From 1980³⁴, the scope of legislation on the provision of 'European' type approval changed so that such approvals for all non-automatic

weighing instruments, such as shop counter scales, could be provided by any appropriate 'approving' body in the European Community and apply in all Member States. Consequently, the Laboratory no longer checks new designs for all equipment intended to be used in the United Kingdom. Whilst approval bodies work to common standards, some industry representative bodies contacted by the National Audit Office were of the view that documentation provided by some of them provided only the minimum information about the approved design required. This could affect the effectiveness of verification work which relies on such information to test whether equipment complies with the approved design. In contrast, they felt the Laboratory provided more fulsome information which was more helpful to the verification process.

4.3 The technical quality of the Laboratory's approval work is subject to a formal quality management system. Some of the Laboratory's facilities are accredited by United Kingdom Accreditation Service. The speed of approval is also important. Quick approvals allow equipment manufacturers to introduce new designs to the market more rapidly with related commercial benefits. And from the Laboratory's point of view, the speed of approvals is important if it is to compete successfully with other 'approving' bodies. In 2000-01, the Laboratory carried out 20 European type approvals and 80 National approvals. On European approvals, reported performance shows that in each year since 1996-97 at least 95 per cent of customers have had their approvals processed within 10 weeks. And since 1999, average processing time has fallen from 6.2 weeks to 4.4 weeks. Under both measures, performance has been well within targeted levels. Internal targets have been set for National type approval work since 1997. In general, the targets have been tightened and performance has improved over time, although 1999-2000 was the only year in which the Laboratory achieved all the targets set for non-European work. The Laboratory does not collate regularly information on instances where installed

33 Lennard, D., V.W. Mitchell, P. McGoldrick and E. Betts (2001), *Why consumers under-use food quantity indicators*, *The International Review of Retail, Distribution and Consumer Research*, 11(2), pp 177-199.

34 The change was implemented by the *Measuring Instruments (EEC Requirements) (Amendment No.3) Regulations 1979 (SI 1979/1459)*.

equipment is found by Trading Standards Departments for which no type approval certificate exists, although it told the National Audit Office that such breaches were rare. Nor does it collate regularly instances where installed equipment does not conform with the approved designs for such equipment. Manufacturers, Trading Standards Departments and 'self-verifiers' have more information in this respect, although the Laboratory receives little feedback from these sources. As part of the 1999-2002 Legal Metrology Programme, the Laboratory did carry out a limited investigation into the degree of conformity of installed non-automatic weighing instruments. The results were, according to the Laboratory, 'not completely satisfactory' and it concluded that a larger number of items of equipment should be tested in the future. Compiling information on a regular basis about unapproved equipment would help the Laboratory identify the extent to which installed equipment was bypassing the regulatory framework.

- 4.4 The Laboratory also ensures that the physical standards of measurement used by Trading Standards Departments to carry out tests and checks remain accurate - normal use can result in small but significant changes in their accuracy. Each set of local standards is re-calibrated to national standards once every five years or 10 years by the Laboratory depending on the category of the standard. Local authorities are required by law to hold local standards, except where they have been granted a dispensation by the Laboratory, acting on behalf of the Secretary of State. Local government reorganisation and other changes have meant that some authorities can no longer justify maintaining their own set of local standards and rely instead on using those held by another authority. Authorities who do not hold standards, or do not have access to local standards, run the risk that they will not be able to carry out valid verification and inspection work, as working standards (which Trading Standards Officers use in the execution of their duties) and testing equipment have to be tested against local standards at intervals prescribed in the legislation. As at February 2003, 89 (43 per cent) of the total of 206 Trading Standards Departments held local standards. A further 97 (47 per cent) authorities had dispensation not to hold local standards, largely because they shared standards with a number of other authorities. The remaining 20 (10 per cent) did not hold standards either but had yet to seek a dispensation despite being instructed by the Laboratory to do so.

Trading Standards Departments are responsible for enforcing the requirements on weights and measures used for trade

- 4.5 Enforcement of the requirements governing the installation and use of weighing and measuring equipment; and of the provision of quantity information for the purposes of trade is carried out by local authority Trading Standards Departments. However, this is only one of their responsibilities: typically, a Trading Standards Department can be responsible for enforcing the requirements of over 80 Acts of Parliament, plus many more pieces of subordinate legislation.
- 4.6 Local authorities have a number of legal duties with regard to ensuring compliance with weights and measures legislation. Apart from holding local standards (see paragraph 4.4), these duties include the appointment of a Chief Inspector of Weights and Measures in each authority; and providing annual returns on weights and measures enforcement activity to the Department. Certain provisions in the legislation place an explicit duty on local authorities with regard to the testing of weighing and measuring instruments. National Audit Office visits to Trading Standards Departments and discussions with representative bodies showed that they undertake a range of enforcement action in relation to weights and measures legislation. These include programmes of inspections of premises for metrological, as well as other trading standards purposes; special projects targeted at particular sectors or potential risks; and education and awareness campaigns to help consumers and businesses understand better the requirements of the law on weights and measures used for trade. Trading Standards Officers are appointed by statute and have wide powers of entry to premises and test purchase of goods to check compliance with the law.
- 4.7 The Office of the Deputy Prime Minister in England, the Scottish Parliament and the Welsh Assembly Government have the lead within Government for developing a consistent approach to the improvement of local services generally. Within this overall framework, local authorities are accountable to the local electorate and the expectation is that they will take a balanced and sensible view of where their priorities should lie across their range of responsibilities. The Department of Trade and Industry is responsible for maintaining the regulatory framework for weights and measures and for ensuring that the legislation is enforceable, but relies on Trading Standards

Departments to enforce the legislation locally. Whilst variations in the level and nature of weights and measures enforcement should be expected, given differing local circumstances, they should be sufficiently consistent between local authorities to ensure the achievement of minimum standards of consumer protection and fair trading. Against this background, the National Audit Office looked at the extent to which variations existed between Trading Standards Departments in the scale and results of their enforcement work on weights and measures; and whether there was a defined minimum standard of consumer protection and fair trading which such work was intended to contribute to. Wide and unexplained variations raise the possibility that such minimum standards are not being achieved across the United Kingdom.

Wide variations exist in the scale and results of local enforcement work raising questions about the maintenance of defined standards

4.8 Wide variations exist in the scale of trading standards work generally. An Audit Commission review³⁵ of trading standards authorities in 1999 highlighted major variations in the levels and types of service provided by, and in the performance of, these authorities. In 2002, the Accounts Commission published a review³⁶ of trading standards services in Scotland which also found wide variability in the level and quality of services

provided. The National Audit Office analysed available data relating specifically to Trading Standards Departments' weights and measures work to identify whether variations were present here as well. **Figure 11** sets out variations between different types of local authorities in the average level of local weights and measures inspections and the average rates of non-compliance for equipment verified and inspected, and goods checked in 2000-01.

4.9 The averages in Figure 11 hide wide variations between authorities of the same type. For example, the percentage of premises which were liable for a visit for metrological purposes which were actually visited by County Council Trading Standards Departments ranged from 6.9 per cent to 25 per cent in 2000-01; and between 10.9 per cent and 55.4 per cent for Metropolitan Boroughs (**Figure 12 overleaf**).

4.10 The Department has no legal powers to set minimum levels of inspection for metrology purposes. The fact that not all premises had been visited on an annual basis is due to Trading Standards Departments basing the frequency of visits on an assessment of the risk that individual premises represent across the range of trading standards legislation. This assessment is based on guidance issued by the representative body the Local Authority Co-ordinators of Regulatory Services, who recommend that high risk premises are visited annually; medium risk premises once every two years; and low

11 Variations in average weights and measures enforcement activity and levels of non-compliance with legislation, by type of local authority, 2000-01

	County Councils	Unitary Authorities	London Boroughs	Metropolitan Boroughs	Scottish Authorities	Welsh Authorities
% of premises liable for inspection for metrological purposes actually visited	16.1	16.6	21.2	28.4	39.4	28.4
% of equipment failed at verification stage	1.6	3.9	0.1	0.4	3.6	2.0
% of equipment failed when inspected	3.3	2.5	4.2	5.2	8.1	3.1
% of samples of packages failed when inspected at packaging plants	10.1	15.3	10.1	12.7	5.7	5.2
% of items failed when tested at retail outlets	6.0	9.9	5.5	8.6	4.2	20.0

NOTE

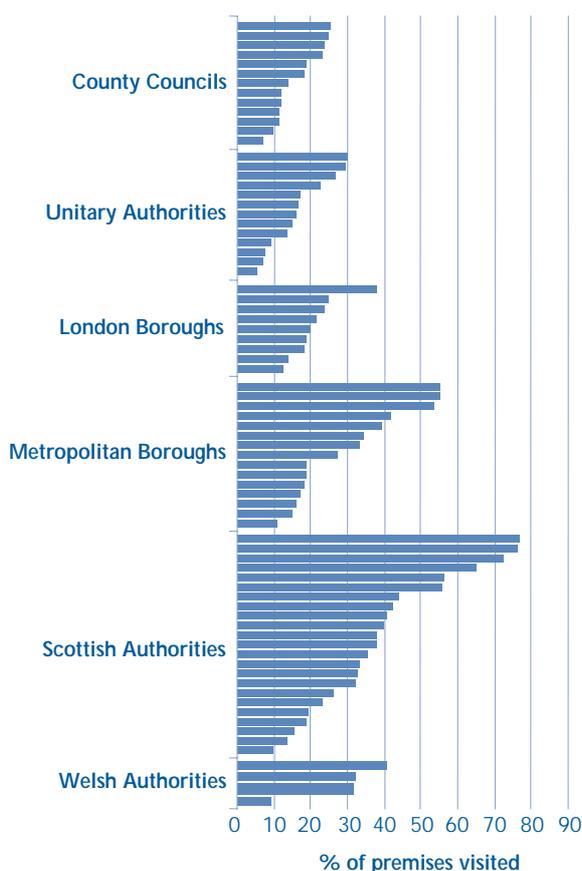
Figures based on 13 returns from County Councils; 14 from Unitary Authorities; nine from London Boroughs; 18 from Metropolitan Boroughs; 23 from Scottish authorities; and four from Welsh authorities.

Source: National Audit Office analysis of available section 70 returns for 2000-01

35 Audit Commission (1999), *Measure for measure: the Best Value agenda for trading standards services*.

36 Accounts Commission (2002), *Made to measure? An overview of trading standards services in Scotland*.

12 The percentage of premises liable for a visit for metrological purposes actually visited by type of local authority, 2000-01



NOTE

Each bar represents a single Trading Standards Department

Source: National Audit Office analysis of section 70 returns for 2000-01

risk premises once every five years³⁷. Within this guidance there is an element of local discretion; and the Trading Standards Departments visited by the National Audit Office confirmed that it was important to be able to reflect local priorities in their inspection programme.

- 4.11 Given its lack of legal powers, the Department does not check the extent to which inspection frequencies meet the recommended guidance but the difference can be quite marked. In 2000-01, on average, only 56 per cent of high risk businesses were visited by Trading Standards Departments for all inspection purposes³⁸. The percentage for individual authorities ranged from two per cent up to well over 100 per cent, reflecting the fact that some authorities were visiting very few high

risk premises whereas others were visiting them more than once a year (Figure 13). These figures relate just to English and Welsh authorities, but the Accounts Commission's 2002 review³⁹ also highlighted that Scottish local authorities regularly failed to meet their inspection targets for high risk premises. It is not possible to tell from these figures whether premises assessed as high risk primarily for metrology reasons were being visited with the recommended frequency.

- 4.12 The percentage of items of equipment found to be non-compliant with the weights and measures legislation at verification and when inspected in use, whilst not large in themselves, reveal large differences between different types of local authority (Figure 11). In 2000-01, the average failure rate at verification for Unitary Authorities was 39 times higher than for London Boroughs. And the average percentage of samples of packages inspected at packing plants which failed was almost three times higher in Unitary Authorities than in Wales. Similarly, an analysis of the variations in the percentages of samples of packages checked at packing plants (Figure 14) and items tested at the point of sale (Figure 15 on page 28) found to be incorrect reveals differences between types of local authority and between Trading Standards Departments within the same type of authority.

The Department has insufficient information to identify the contribution local enforcement should make to a defined standard for consumer protection and fair trading

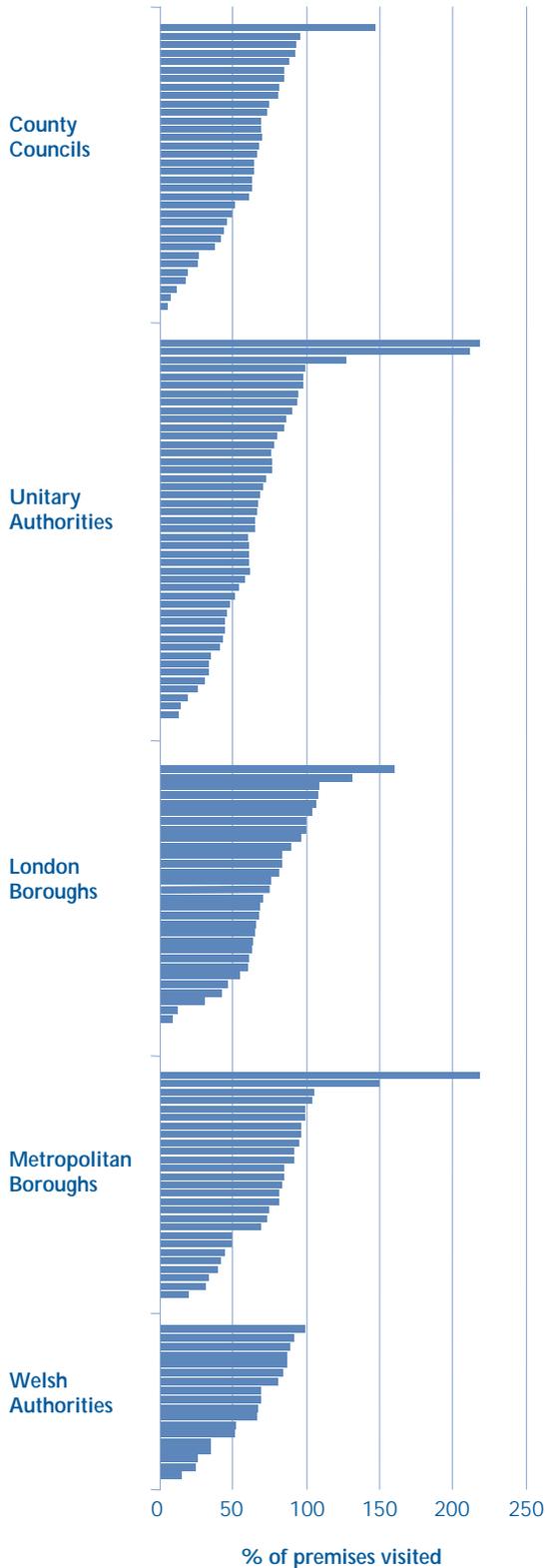
- 4.13 Variations between authorities should be expected. Different Trading Standards Departments are faced with varying business profiles. One authority may have large numbers of packaging plants whereas another may have a significant number of retail centres, both of which can raise different potential risks to accurate, fair and legal weights and measures. An effective national weights and measures regime, however, requires the ability to identify where variations are due to legitimate responses to local conditions, or where they are due to other factors which may compromise the effectiveness of local enforcement work and the attainment of defined standards of consumer protection and fair trading. The statutory weights and measures returns from local authorities have provided the Department with a potentially important source of data about local enforcement activity. The Department had these analysed by a consultant in consecutive years in the early nineties (see paragraph 2.11). The analysis

³⁷ The Local Authority Co-ordinators of Regulatory Services' guidance was issued in 1994 and updated in 2003. The updated guidance focused on the frequency of 'appropriate enforcement actions' including inspections; whereas the earlier guidance which is relevant to the period in which the analysis in Figure 12 relates referred to the frequency of inspections alone.

³⁸ The risk rating does not always reflect the metrological risk. For example, a landfill site may have a low overall risk from a consumers point of view, but represent a high metrological risk because the weighbridge used to weigh incoming fill materials (as a basis for tax collection) could be subject to adverse environmental conditions.

³⁹ Accounts Commission (2002), *Made to measure? An overview of trading standards services in Scotland*.

13 The percentage of high risk premises visited by type of local authority in England and Wales, 2000-01

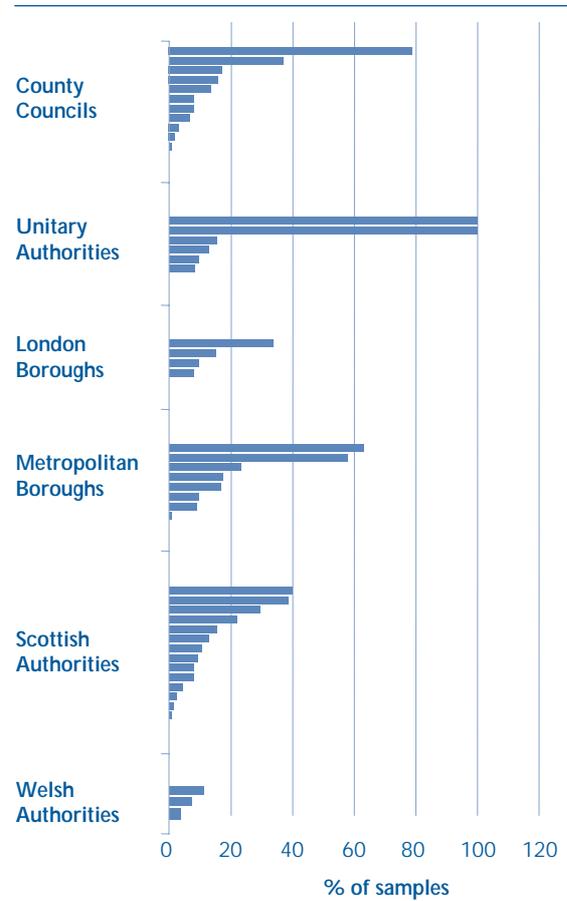


NOTE

The data does not include Scottish Authorities. Each bar represents a single Trading Standards Department.

Source: National Audit Office analysis of Chartered Institute of Public Finance and Accountancy Trading Standards Statistics 2001⁴⁰

14 The percentage of samples of packages checked at packing plants found to be incorrect by type of authority, 2000-01



NOTE

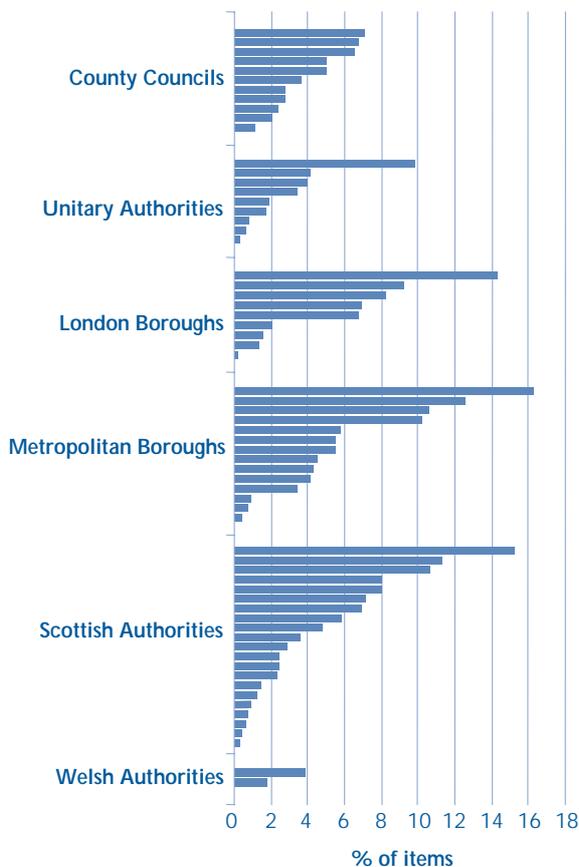
Each bar represents a single Trading Standards Department

Source: National Audit Office analysis of section 70 returns for 2000-01

showed little year on year change and the Department concluded that it was not necessary at that time to continue this analysis every year. Further analysis was done in 2000, 2001 and 2002 although this did not lead to conclusions about the results of weights and measures enforcement activity. In future, the information provided through the National Performance Framework for Trading Standards Services (see paragraph 4.15), which will include but not be limited to weights and measures information, will be analysed and published each year.

4.14 The Department has powers to inspect local authorities for the purpose of gathering information about arrangements for enforcing weights and measures legislation, but these powers were last used in 1964. There may have been no cause to use them. But the major variations in the levels and types of service provided by Trading Standards Departments highlighted

15 The percentage of items tested at the point of sale found to be incorrect by type of authority, 2000-01



NOTE

Entries over 20 per cent have been excluded to allow the graph to show the level of non-compliance more clearly at the lower values. There were six authorities with error rates over 20 per cent: one County Council (33 per cent); two Unitary Authorities (73 per cent; 29 per cent); one Metropolitan Borough (53 per cent); and two Welsh authorities (50 per cent; 24 per cent). Each bar represents a single Trading Standards Department.

Source: National Audit Office analysis of section 70 returns for 2000-01

in the Audit Commission's 1999 review⁴¹ and the Accounts Commission's 2002 study⁴², as well as the variations identified in this current review, suggest that there would have been grounds for inspecting local arrangements in the interests of maintaining consistency nationally. However, these powers do not allow the Department to intervene to address cases of poor performance. Since 1999, local authority trading standards work, including weights and measures enforcement work, has been covered by the Best Value inspection regime which includes powers to allow the appropriate Secretary of State to intervene where local

authorities fail to provide best value. Any decision to intervene, however, must be based on an authority's performance against one or more Best Value performance indicators. Trading standards work is covered by a single indicator which is now recognised as being inadequate for the purposes of identifying the extent to which best value has been achieved. In the absence of an appropriate indicator, regular Departmental analysis of the statutory returns it receives from local authorities could have helped to identify authorities where the level and effects of weights and measures enforcement work were widely different from the majority. This could have provided prima facie evidence of the need for further investigation by the Audit Commission to establish whether those variations were legitimate or represented a failure to achieve best value. However, the Commission would not be obliged, and sometimes not able, to conduct a Best Value inspection. So there has been no ready way for the Department to secure change in any case of weak local enforcement of weights and measures legislation.

The Department is taking steps to improve the consistency, performance and capability of Trading Standards Departments

4.15 Lack of use of local enforcement data reflects concerns about the consistency of local data and therefore the reliability of national figures. In response, new projects have been included in the Laboratory's 2002-05 Legal Metrology Programme which will examine whether weights and measures legislation is being followed and applied consistently and correctly. The projects include collating and analysing information on the current provision of weights and measures services across the United Kingdom and funding Trading Standards Officers to carry out a range of specified tests on measuring equipment. In addition, the Department and the Laboratory have taken the lead in developing, along with representatives of local authority Trading Standards Departments, a new *National Performance Framework for Trading Standards Services* which was introduced for all trading standards activities from April 2002. The Framework is intended to promote consistent enforcement and service delivery. It includes the requirement for each Trading Standards Department to provide an annual Service Delivery Plan and a new performance information return which, in respect of weights and measures work, is expected to replace the existing section 70 return. By October 2002, 87 per cent of local authorities had provided their Service Delivery Plans for 2002-03.

⁴¹ Audit Commission (1999), *Measure for Measure: the best value agenda for trading standards services*, London.

⁴² Accounts Commission (2002), *Made to measure? An overview of trading standards services in Scotland*, Edinburgh.

- 4.16 In time the Framework should improve the quality of information local authorities provide on the extent to which individual pieces of weighing and measuring equipment are accurate, fair and legal. At the time of the National Audit Office review, the Department was consulting on the level and type of information local authorities would be required to provide. The information obtained will be fed back to local authorities, consumers and business by the publication of an annual report
- 4.17 Currently, the only formal measure of performance of Trading Standards Departments is the Best Value Performance Indicator 166 which focuses on the extent to which authorities have complied with a best practice checklist on environmental health and trading standards activity. The Department has recognised the need for more robust measurement of Trading Standards Departments in order to drive improvements in performance and is seeking to develop performance measures as part of its ongoing development of the National Performance Framework. At the time of the National Audit Office review, the Department was consulting local authorities and other stakeholders on these measures. It has proposed a number of performance measures, including one intended to measure compliance and the effectiveness of enforcement activity. This is a composite measure, relating to the full range of trading standards activity, which will not by itself help the Department to identify effectiveness and compliance levels with regard to weights and measures. The Department has decided that it will collect information specifically on weights and measures enforcement as well, but was still consulting local authorities on the exact information to be included. The performance measures will be introduced in April 2003. In time, the Department hopes that the performance measures established for trading standards work will be incorporated into the Best Value and Corporate Performance Assessment regimes for local authorities.
- 4.18 The Department is also working with the Local Authority Co-ordinators of Regulatory Services and the Trading Standards Institute to develop a system of peer review. This is intended to help improve the performance of Trading Standards Departments by facilitating and underpinning the necessary audit and review process needed to ensure the effectiveness of planning. It is also intended to provide an independent and more in-depth assessment of an authority's performance than is possible from the performance information return, and to provide advice for performance improvement. Since February 2002, Good Practice Guides have been available to Trading Standards Departments on a range of issues including programmed inspections; consumer advice; and the investigation of offences.
- 4.19 Many of the Trading Standards Departments visited by the National Audit Office raised concerns about maintaining the number and skills of Trading Standards Officers over the long term. Effective enforcement of weights and measures legislation is dependent on having sufficient Trading Standards Officers in post, given that only they have powers to prosecute offenders under the legislation. A fall in the numbers seeking to train to become Trading Standards Officers and the rate at which existing Officers are leaving Trading Standards Departments have raised fears that eventually the effectiveness of trading standards work, including the enforcement of weights and measures legislation, will be compromised.
- 4.20 In response, the Department has sought to raise the capabilities of Trading Standards Departments through supporting the training and skills development of Trading Standards Officers, including providing scholarships to cover the cost of initial training towards the Diploma in Trading Standards; and helping to fund the development of distance learning materials by the Trading Standards Institute to support the professional development of Trading Standards Officers. In 2002-03, up to £1 million is being made available in scholarships and £500,000 for the development of distance learning materials; as part of the Modernisation Fund (providing £10 million in 2002-03) set up by the Department to raise the standard of consumer protection.

Appendix

Study methodology

The main aspects of our methodology were:

Semi-structured interviews

We held semi-structured interviews with key staff in the Department and the Laboratory to establish their respective roles in the regulation of weights and measures; and gain a better understanding of the system of control provided by the legislation and its enforcement. We also attended part of the 2002 Annual Review of the Legal Metrology Programme 2002-05 to gain an understanding of the process by which the Programme was monitored and assessed.

In addition, we met with the Office of the Deputy Prime Minister to discuss the overall central-local government framework within which Trading Standards Department operate.

Analysis of local authority enforcement data

We analysed available section 70 returns for the years 1998-99, 1999-00 and 2000-01 to identify variations in the level and results of enforcement activity both between types of local authorities and between authorities of the same type.

Visits to Trading Standards Departments

To understand the relevance and importance of the enforcement of weights and measures legislation at the local level, we visited the following local authority Trading Standards Departments:

Bath and North East Somerset Council
 London Borough of Croydon
 Durham County Council
 Essex County Council
 Glasgow City Council
 Lincolnshire County Council
 North East Lincolnshire Council
 Sandwell Metropolitan Borough Council
 Surrey County Council
 Swansea City and County Council

These local authorities were chosen after discussions with the Department, the Laboratory, the Trading Standards Institute and the Local Authority Co-ordinators of Regulatory Services. The group represents a mix of local authorities which were broadly typical (but not statistically representative) of the circumstances in which Trading Standards Departments operate. During each visit we undertook semi-structured interviews to explore a range of issues including the nature of, and approach to, weights and measures enforcement activity; how risks were assessed and priorities set; the relevance and enforceability of current weights and measures legislation; partnership arrangements with other local authorities; and the role of the Department and the Laboratory in supporting local weights and measures enforcement work.

Contacts with key stakeholders

As well as visiting a number of Trading Standards Departments, we met with the Audit Commission about its inspection work on Trading Standards Departments; and held semi-structured interviews with the following organisations to seek their views on the extent to which current legislation has kept pace with technological developments and trading practices; the role of the Department and the Laboratory in setting and overseeing the regulatory framework; and the effectiveness of local enforcement:

British Beer and Pub Association
 British Retail Consortium
 Confederation of British Industry
 Food and Drink Federation
 Forecourt Equipment Federation
 Local Authority Co-ordinators of Regulatory Services
 Manchester Metropolitan University
 Petrol Retailers Association
 Trading Standards Institute
 United Kingdom Weighing Federation