

# COMPENSATING FARMERS FOR BOVINE TUBERCULOSIS IN WALES

Report by the National Audit Office Wales on behalf of the Auditor General for Wales

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Report by Auditor General for Wales,  
presented to the National Assembly on  
31 July 2003

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This report has been prepared for presentation to the National Assembly under the Government of Wales Act 1998.

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18 July 2003

The Auditor General for Wales is totally independent of the National Assembly. He certifies the accounts of the Assembly and its associated sponsored public bodies; and he has statutory authority to report to the Assembly on the economy, efficiency and effectiveness with which the Assembly and its sponsored public bodies have used their resources in discharging their functions.

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Bovine tuberculosis is a serious problem for farmers, which has increased considerably in recent years (Part 2).



Compensation for animals slaughtered because of bovine tuberculosis is based on the animal's market value. Average compensation levels in Wales exceed underlying market values (Part 3).



Lessons from elsewhere suggest there is considerable scope for the Assembly to improve its control and management of the valuation process. The main sources of these lessons are Northern Ireland, the livestock insurance industry and arrangements elsewhere for compensating farmers (Part 5).



There are inflationary pressures inherent in the current valuation arrangements, which have led to the development of a separate secondary market for animals affected by bovine tuberculosis. This market is related to the primary market for healthy animals but operates independently of it. The Assembly does not monitor valuation levels effectively (Part 4).





# EXECUTIVE SUMMARY

## Introduction

- 1 Bovine tuberculosis is a virulent disease affecting cattle. It is the best known of the three notifiable diseases for which the National Assembly for Wales (the Assembly) is responsible. Incidence of bovine tuberculosis in Wales has risen considerably in recent years, with a 29 per cent average annual increase in confirmed new incidents between 1996 and 2002. The main areas affected are parts of south-east and south-west Wales. In 2002, just under 5,000 animals were slaughtered because of bovine tuberculosis in Wales.
- 2 The State Veterinary Service (SVS), part of the Department for the Environment, and Rural Affairs (Defra), is responsible for operational veterinary management of bovine tuberculosis in Wales, operating under a concordat agreed with the Assembly. However, the relationships and responsibilities between the Assembly, SVS and Defra are complex and inter-dependent - bovine tuberculosis is not limited to Wales and can easily cross internal borders, and it is the United Kingdom which, as the Member State, must comply with relevant European Union directives.
- 3 Bovine tuberculosis is identified through regular testing of all herds under a European Union directive. When animals test positive or are suspected of harbouring tuberculosis, herds are subject to movement restrictions to control the spread of the disease. At the end of 2002, 779 Welsh herd owners were subject to movement restrictions because of bovine tuberculosis.
- 4 Animals that test positive for bovine tuberculosis are compulsorily slaughtered. Since August 1998, farmers have received compensation based on the full market value of the animal on the day of valuation, assuming that it was healthy. In most cases, the valuation is carried out by one valuer nominated by the farmer, or two valuers (the second nominated by SVS). Occasionally state veterinary officers value small numbers of animals. The Assembly makes compensation payments to farmers based on these valuations. Between 1998-99 and 2002-03, the total cost of compensating farmers for bovine tuberculosis has risen eightfold, to just over £8 million. Average compensation payments for each animal slaughtered in Wales increased by 82 per cent between 1999 and 2002.
- 5 The recent outbreak of foot and mouth disease in 2001 has raised the profile of compensation payments for notifiable diseases. The Comptroller and Auditor General's report (The 2001 outbreak of foot and mouth disease, HC 939 Session 2001-02) and the subsequent Committee of Public Accounts' report (The 2001 outbreak of foot and mouth disease, fifth report of session 2002-03, HC 487) on the outbreak both expressed concern about the threefold rise in average compensation payments for cattle during the foot and mouth crisis. There were further concerns about the process of valuing animals for compensation purposes and the adequacy of Defra's controls. Defra officials will launch a consultation on rationalising compensation for all notifiable diseases, including tuberculosis, later in 2003.

- 6 Assembly officials responded to the recent sharp increase in compensation paid in respect of bovine tuberculosis and were concerned about the underpinning administrative structure. Alongside actions to review the operation of compensation arrangements for all species and diseases, to direct additional resources at the problem and to review arrangements operating elsewhere, Assembly officials sought an independent examination of these issues, which the Auditor General for Wales agreed to undertake. Against this background, this report examines:
- ▶ the impact of bovine tuberculosis on farmers, and the arrangements currently in place for compensating them for animals slaughtered;
  - ▶ whether compensation payments for bovine tuberculosis were consistent with the policy that they should reflect underlying market values; and
  - ▶ whether the Assembly's management of the valuation process is effective.

## Summary of Findings

### On the impact of bovine tuberculosis on farmers

- 7 Bovine tuberculosis has a significant impact on farmers, principally because of restrictions on the movement of animals. The minimum duration of movement restrictions is 120 days when tuberculosis is confirmed. Across Great Britain, the average duration of movement restrictions for confirmed new incidents increased from just over 200 days to 350 days as a consequence of the backlog of tuberculosis tests after the foot and mouth outbreak in 2001.
- 8 As a result of movement restrictions farms suffer consequential losses, which generally exceed the market value of the animals slaughtered. One farming union recently estimated the average cost to a farm of an outbreak as £36,000. Other impacts affecting farms as a result of tuberculosis can include: accommodation and welfare problems for all animals on the farm, arising from the over-stocking that movement restrictions can lead to; and personal costs to farmers in terms of uncertainty about the duration of restrictions, the difficulty of business planning and the emotional trauma of losing animals. Farmers also described feelings of acute frustration about losing their animals when they saw insufficient (in their view) being done to tackle what they believe is the cause of the spread of bovine tuberculosis, the badger.
- 9 Many farms have insurance cover against consequential losses arising from bovine tuberculosis. Such cover usually helps to offset the farmer's consequential losses rather than covering them in full. The rising incidence of bovine tuberculosis has affected the availability and affordability of insurance against bovine tuberculosis.

## On the relationship between levels of compensation and underlying market values

- 10 Compensation is usually based on a professional valuer's certificate of an animal's market value, in accordance with the relevant legislation. We compared compensation levels paid by the Assembly in respect of bovine tuberculosis with a range of indicators of underlying market prices. (A range of different indicators was used because, for a variety of reasons, no single indicator was exactly comparable with average compensation payments.) We focused our analysis of average compensation payments on animals tested in 2000 and 2002, since 2001 was an abnormal year because of the foot and mouth outbreak. We conducted separate analyses of commercial and pedigree animals (a commercial animal being one not registered with a pedigree society), since the latter generally attract higher values.
- 11 In both 2000 and 2002 and for both commercial and pedigree animals, we identified a clear difference between average compensation levels and all of our indicators of the underlying market price. In 2002:
  - ▶ the average compensation payment for commercial animals was £1,164. Our comparative market data ranged from £512 to £743; and
  - ▶ the average compensation payment for pedigree animals was £2,641. Our comparative market data ranged from £1,220 to £1,654.
- 12 On this basis, we estimate that, in 2002, compensation was at least 50 per cent higher than underlying market prices for both commercial and pedigree animals. Some of our indicators of the underlying market price suggest that the difference was over 100 per cent. As a consequence, we estimate that in 2002 the Assembly paid some £2.6 million in compensation payments more than it would have done had valuations been consistent with market values.
- 13 This differential between average compensation payments and underlying market values was more marked in 2002 than 2000. This relative increase in compensation payments may have been caused in part by the introduction in the foot and mouth outbreak of the "standard card" (a set price for animals slaughtered).
- 14 By way of examples, we also compared average compensation payments in Wales with those in Northern Ireland and Devon, both of which have high levels of bovine tuberculosis. We found that average compensation payments in Wales were 56 per cent higher than the Northern Ireland average for commercial animals, and 34 per cent higher for pedigree animals. The average for all animals in Wales was 27 per cent higher than that in Devon (where no data was available which distinguished between commercial and pedigree animals).

## On the Assembly's management of the current arrangements for valuing animals

- 15 Despite projected expenditure of over £8 million in 2002-03, the Assembly has no formal process for monitoring average compensation payments. Inadequacies in the information systems used by each SVS office to record individual compensation payments exacerbate this situation, leaving the Assembly without the facility to monitor patterns and trends in average compensation levels. Although SVS introduced an improved ledger spreadsheet to record compensation payments in January 2003, this still has inherent weaknesses.
- 16 The Assembly is doing too little to control the risks inherent in the current arrangements for valuing animals. It is not possible to determine the precise effect that these risks materialising has had on levels of average compensation. However, the way the system operates means that, effectively, a separate market has emerged for tuberculosis compensation, related to the market for healthy animals but operating independently of it. This means that a 'fair price' in this secondary market may be higher than the price in the primary market for healthy animals.
- 17 This market has dynamics of its own. Its circumstances are different from that of the real market - farmers do not want to sell animals, whereas the buyer, the Assembly, is very keen to purchase the animals to facilitate effective disease control. This places the seller in an extremely strong position, and can place the valuer, whether a veterinary officer or private valuer, in a difficult position for the following reasons:
  - ▶ veterinary officers' key function is disease control - consequently they may find themselves under pressure to include a limited amount of additional compensation if this facilitates the earlier removal of affected animals;
  - ▶ valuers are chosen by farmers to act on their behalf, often because they buy and sell healthy animals through the valuer's market. Farmers therefore expect their nominated valuer to act on the facts of the market that confronts them, and may take their regular business elsewhere if the valuer does not. Valuers' businesses can also be affected in tuberculosis hotspots – gaining work valuing affected animals can attract new business; and
  - ▶ valuations in the secondary market set a benchmark or floor for other valuations in the locality; such a process can lead to inflationary 'valuation creep' compared with underlying market values and add to the pressure on those valuing animals.



As a consequence, the aggregate effect of the individual decisions of those carrying out valuations is the creation of a secondary market for affected cattle which is only partially related to the market for healthy animals.

- 18 The Assembly relies on dual valuation as its main tool to control valuations. Although its use has increased (reflecting concern at rising valuations), dual valuation was only used in 44 per cent of valuations in 2002. The effectiveness of dual valuation appears to be improved when the second valuer is not local and is therefore more independent. Beyond this practice, and occasional written requests for valuers to justify individual valuations, the Assembly exercises no control over those valuing animals on its behalf. The Assembly has almost no contact with the professional valuers who provided services worth just under a quarter of a million pounds in 2002-03.
- 19 We examined arrangements in Northern Ireland, where levels of compensation were lower, and in the livestock insurance industry. Both examples provided lessons which the Assembly could learn in controlling the costs of compensation for bovine tuberculosis. In both cases, the organisations we spoke to had significantly stronger controls over the selection of who values animals, and thresholds or milestones for valuations, beyond which detailed justifications were required. We also examined mechanisms used in other countries to control the cost of compensation for bovine tuberculosis, as well as in the United Kingdom for other notifiable diseases.



# Recommendations

- 20 To achieve its objective of compensating the farmers at the primary market valuation for healthy animals, we recommend that the Assembly, working in partnership with Defra as appropriate:

## To improve the control of valuations:

- i introduce a framework to quality assure the suppliers of valuation services, for example a panel of accredited valuers based on qualification and performance criteria and external scrutiny by an independent monitor valuer; the arrangements should include sanctions, escalating to the removal of panel membership in appropriate circumstances;
- ii introduce a threshold above which valuers are routinely required to provide a more detailed justification of the animal's market value;
- iii compel farmers to disclose invoices of sale when the animal concerned was brought onto the farm within twelve months of the valuation, subject to anti-fraud arrangements;
- iv tighten controls of pedigree valuations by collecting more information (such as animals' pedigree certificates), liaising further with the major pedigree societies and using specialist valuers from breeding societies where appropriate;
- v carry out a cost-benefit analysis and industry consultation about the introduction of Assembly-employed valuation officers, such as carry out the majority of valuations in Northern Ireland; and
- vi consider the costs and benefits of introducing up-front disclosure by farmers of the maximum market value of their animals in tuberculosis hotspots if the maximum exceeds a certain threshold.

## To improve communication:

- vii further improve communication on valuations between the Assembly and SVS at all levels;
- viii provide more detailed and explicit instructions about the Assembly's requirements of valuers they instruct, including their responsibility to the taxpayer; and
- ix introduce regular meetings with valuers working on the Assembly's behalf, to share relevant information - possibly including market values and compensation levels - and best practice.

## To monitor valuation levels:

- x work with Defra to improve dramatically and urgently the information systems used to administer and record compensation payments for bovine tuberculosis. The resulting system should be linked to the veterinary information on testing and disease incidence, operate throughout Wales and be shared between SVS and the National Assembly, with sufficient information on each animal for which the Assembly paid compensation to enable high quality remote monitoring of valuation levels; and
- xi initiate monitoring procedures and protocols with SVS to ensure that levels of compensation are regularly evaluated.

## Concluding comments

- 21 An outbreak of bovine tuberculosis can have a serious, almost catastrophic, effect on farms. Unlike foot and mouth, for example, where animals suspected of harbouring the disease are quickly slaughtered and can then be replaced, the movement restrictions on cattle that accompany a tuberculosis outbreak mean that the effects of the disease tend to be much longer lasting. Research is under way to identify the cause of the disease in cattle (strongly believed in the farming community to be the badger), but this is not expected to be concluded until 2006. In the meantime, the frustration and helplessness felt by affected farmers, particularly in tuberculosis hotspots, is understandable.
- 22 Nevertheless, it is the law that farmers should be compensated for cattle slaughtered because of tuberculosis to the extent of the market value of the animal. Our analysis of compensation payments in 2002 is clear evidence that on average they were significantly higher than underlying market prices because of the development of a secondary market. It is not possible to determine the reasons for this. However, there are a number of aspects in the way that animals are currently valued that, if unchecked, might tend to inflate the values attributed to them. The Assembly, together with its agents and partners, SVS, has hitherto done little to tackle this problem. With compensation payments now running at £8 million a year and rising, close attention by the Assembly to the risks identified, and a better grip on the valuation process, could save the Assembly, in our estimate, some £2.6 million a year while still compensating farmers for the full primary market value of animals lost.



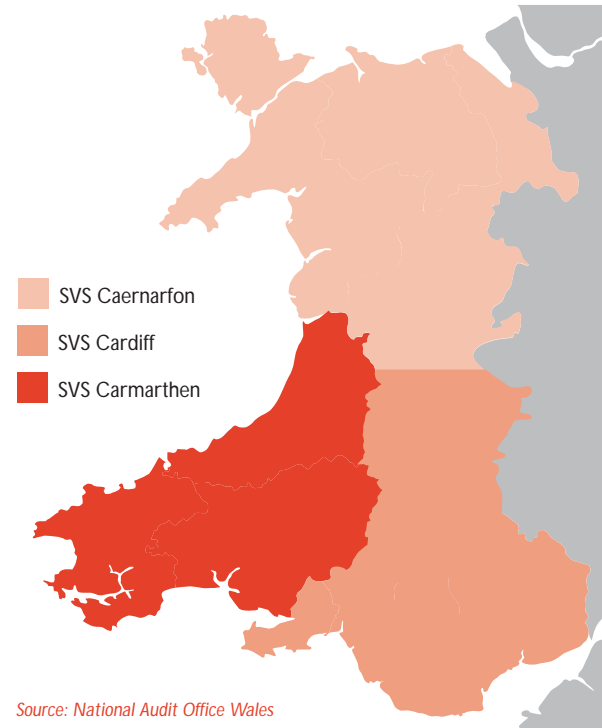


## Responsibility for financial compensation for bovine tuberculosis lies with the National Assembly

- 1.1 Bovine tuberculosis is an infectious and contagious disease affecting cattle, caused by the bacterium *Mycobacterium bovis* (M.bovis). It is an inflammatory condition which produces lesions in various organs and their associated lymph nodes. Tuberculosis can be passed to humans through consumption of milk and dairy products, although the risk is considered low in the United Kingdom because of pasteurisation of milk, vaccination of children, routine meat inspection and the relatively low incidence of infection within the national herd.
- 1.2 Tuberculosis is the best known of the three "notifiable" diseases - the others being brucellosis and warble fly - for which responsibility is devolved to the National Assembly for Wales (the Assembly), as it was to the Welsh Office before the Assembly was established. Although the Assembly has full responsibility for disease control policy in Wales, as in England operational and veterinary responsibility rests with the State Veterinary Service (SVS), which is part of the Department for the Environment, Food and Rural Affairs (Defra). SVS carries out its functions in Wales under the terms of a concordat agreed with the Assembly. SVS has three offices in Wales, located in Cardiff, Carmarthen and Caernarfon, covering south, west and north Wales respectively (see Figure 1).
- 1.3 The United Kingdom is a single epidemiological unit - bovine tuberculosis is not limited to Wales and can easily cross internal borders (see Figure 4). As the relevant Member State, the United Kingdom must comply with relevant European Union directives. Consequently a complex, and still developing, joint relationship between the Assembly and Defra governs the strategic approach to tackling bovine tuberculosis and other animal health issues. For example, although the Welsh Assembly Government is able to set its own policy on bovine tuberculosis, in practice, as the disease knows no boundaries, it would not be sensible to adopt a substantially different approach in Wales. In addition, while the parties operate in partnership, the Assembly does not have direct responsibility for certain aspects of Defra's approach to bovine tuberculosis, such as research and development and disease control. As a result, the issues identified in the report and the consequential recommendations require an effective partnership approach from the Assembly and Defra.

Figure 1

Areas covered by each of SVS's three Welsh offices



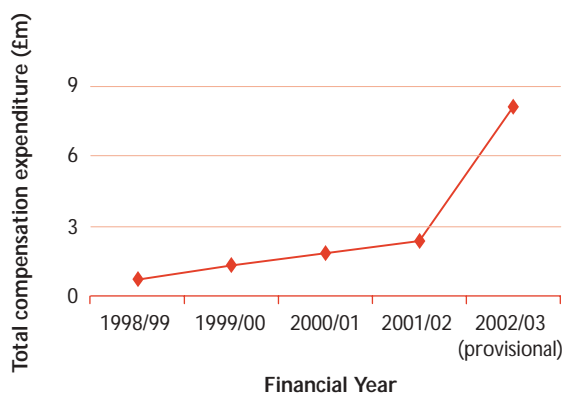
## Expenditure on compensation payments has increased eightfold in the last four years

- 1.4 As a measure to control the disease, animals affected by tuberculosis or suspected of harbouring the disease are compulsorily slaughtered by the Assembly. Under the Animal Health Act (1981), farmers receive compensation for animals slaughtered because of a range of "notifiable" diseases, including tuberculosis. Since August 1998 compensation has been based on the full market value of the animal, rather than the fixed scale which existed before this time. In 2002-03, the Assembly paid just over £8 million in compensation to farmers whose cattle were slaughtered due to tuberculosis<sup>1</sup>, a significant increase over the levels paid in previous years - Figure 2 overleaf. This increase has been caused by a combination of two factors: an increase in the incidence of the disease and an increase in the average compensation paid per animal slaughtered, which has been particularly marked since the foot and mouth outbreak of 2001.

<sup>1</sup> The Assembly is able to recover revenue for many of the animals slaughtered, either from slaughterhouses or, for animals over thirty months old which therefore cannot enter the human food chain, from the Rural Payments Agency. In 2002-03 this "salvage" revenue was £1.1 million, 14 per cent of total compensation paid.

Figure 2

Cost of compensation for bovine tuberculosis in Wales



Source: National Assembly for Wales, Animal Health Division

## We examined the level of compensation payments relative to market prices, and the effectiveness of the process of valuing animals

1.5 The outbreak of foot and mouth disease in the United Kingdom in 2001 has made the issue of compensating farmers for animals slaughtered highly topical. Although special procedures were put in place to combat the foot and mouth outbreak, the basis of compensating farmers for foot and mouth is very similar to that for tuberculosis. The Comptroller and Auditor General's report (The 2001 outbreak of foot and mouth disease, HC 939 Session 2001-02) and the subsequent Committee of Public Accounts' report (The 2001 outbreak of foot and mouth disease, fifth report of session 2002-03, HC 487) on the outbreak both expressed concern about the threefold rise in average compensation payments for cattle during the foot and mouth crisis. There were further concerns about the process of valuing animals for compensation purposes and the adequacy of Defra's controls. Appendix 1 provides a summary of the relevant conclusions of both reports. Defra and the Assembly in tandem are developing new arrangements for rationalising compensation payments across all species and diseases, including new arrangements for valuing animals; consultation is planned for later in 2003.

1.6 Assembly officials recognised the recent sharp increase in compensation paid by the Assembly in respect of bovine tuberculosis and were concerned about the underpinning administrative structure. Officials sought an independent examination of these issues, which the Auditor General for Wales agreed to carry out. Against this background we:

- ▶ provide an audit critique of the impact of bovine tuberculosis on farmers and the arrangements currently in place for compensating them for animals slaughtered (Part 2);
- ▶ examined whether compensation payments for bovine tuberculosis were consistent with the policy that they should reflect underlying market values (Part 3);
- ▶ examined the adequacy of the Assembly's control over the risks inherent in the valuation process and its overall monitoring (Part 4); and
- ▶ considered the scope for the Assembly to improve its management of the process, including possible lessons from elsewhere (Part 5).

1.7 There is considerable ongoing scientific research into the causes of bovine tuberculosis and pilot schemes are in place to assess the effectiveness of different approaches to disease control. This report does not, therefore, consider the effectiveness of the Assembly's management of the disease; it focuses on the arrangements underpinning the level of compensation payments made to farmers.

1.8 In carrying out the study we:

- ▶ collected, consolidated and analysed SVS's information on compensation payments for bovine tuberculosis in Wales in order to compare it to underlying market prices (see Appendix 3);
- ▶ carried out a focus group of farmers who had been affected by bovine tuberculosis;
- ▶ observed the valuation of animals on two farms;
- ▶ interviewed relevant Assembly, SVS and Defra officials;
- ▶ visited SVS's Exeter office, and the Department of Agriculture and Rural Development, Northern Ireland;
- ▶ carried out interviews with the Holstein UK pedigree society, farming unions, individual livestock valuers in each SVS region, agricultural valuers' professional associations and senior underwriters in the livestock insurance sector; and
- ▶ engaged a consultant valuer to advise us on market prices and issues relating to valuation.

Full details of the study methodology can be found in Appendix 2.





## PART 2 Bovine tuberculosis is a serious problem for farmers, which has increased considerably in recent years

2.1 Bovine tuberculosis is widely recognised as a serious and growing problem, which has a severe impact on the farming community. The disease is virulent and highly localised, tending to spread rapidly in specific hotspots. An outbreak of the disease can affect farms for a prolonged period of time. This part of the report provides a detailed audit critique, providing the context for our substantive examination of levels of compensation and the process by which compensation payments are determined. In it, we examine:

- ▶ the history and incidence of bovine tuberculosis in Wales;
- ▶ how bovine tuberculosis is identified and handled;
- ▶ the impact of bovine tuberculosis on farmers; and
- ▶ arrangements for compensating farmers for animals slaughtered.

### History and incidence of the disease

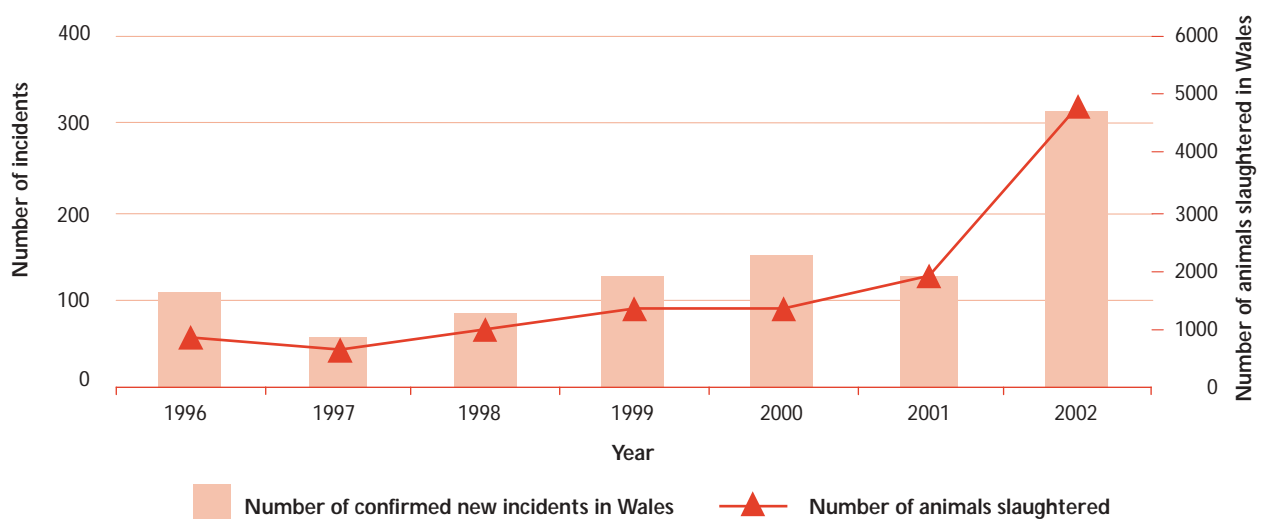
#### Levels of bovine tuberculosis have risen considerably in the last twenty years

2.2 Bovine tuberculosis was a very serious problem in the United Kingdom during the 1930s and 1940s, when up to 20 per cent of herds in the United Kingdom were affected. As a result of this level of infection, the first national tuberculosis eradication campaign began in the 1940s. Incidence of tuberculosis declined until 1960, at which point the United Kingdom was considered free of the disease.

2.3 However, levels of bovine tuberculosis rose steadily from the late 1970s and early 1980s, and accelerated during the 1990s and 2000s. **Figure 3** shows two measures of incidence. The sudden, sharp increase in both measures for 2002 can be partly explained by the efforts to eradicate the testing backlog that arose due to the foot and mouth outbreak (paragraph 2.8): far more tests than usual were carried out in 2002, and they were targeted particularly at herds considered to be at greater risk of the disease. It is also possible that in some areas tuberculosis grew and spread because of the reduction in testing during the outbreak of foot and mouth disease. Nevertheless, as an example of the increased incidence of tuberculosis, the number of animals slaughtered in Wales

Figure 3

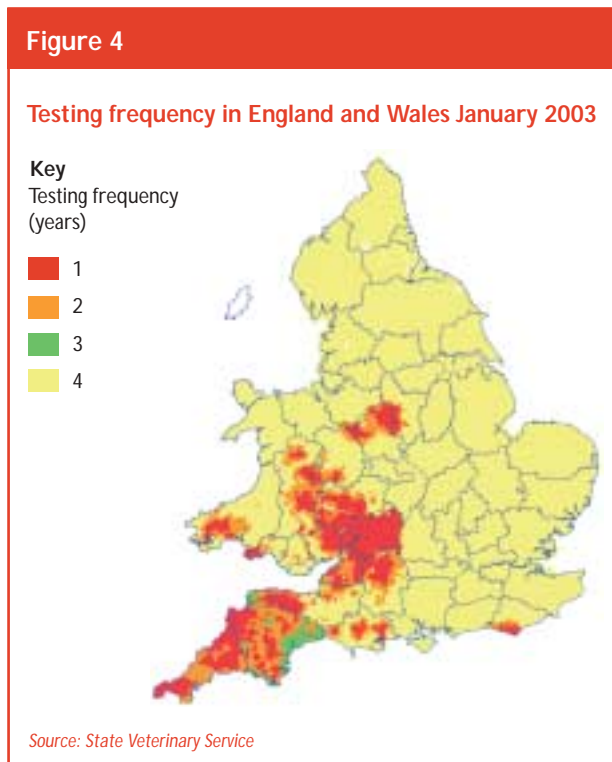
#### Number of confirmed new incidents in Wales



Source: State Veterinary Service tuberculosis statistics

because of bovine tuberculosis increased over four and a half times to just under 5,000 between 2001 and 2002. Between 1996 and 2002 the average annual increase in confirmed new incidents has been 29 per cent.

2.4 **Figure 4** shows the current incidence of the disease in England and Wales (based on the frequency of herd tests - paragraph 2.6) and hence shows its very localised nature. West Wales, the Gower peninsula, Monmouthshire and parts of Powys are the main hotspots in Wales. The south-west is the major hotspot in England.



### There is considerable debate about the cause of bovine tuberculosis

2.5 There is a widely-held belief within the farming community that bovine tuberculosis is passed through a wildlife reservoir other than cattle, with the badger - a protected species - commonly identified as the most likely carrier<sup>2</sup>. Other groups dispute this view, and the possible link between

badgers and bovine tuberculosis is currently the subject of a series of trials, known as the Krebs trials after the advisory group which advised Defra to run a randomised badger culling trial in 1997. The progress of the trials, which began in 1998, was delayed by the outbreak of foot and mouth disease in 2001 and their results are not now expected to be published until 2006. A recent parliamentary select committee report considered the relationship between badgers and bovine tuberculosis.<sup>3</sup> On the link between badgers and bovine tuberculosis it believed that the randomised badger culling trials should continue, and welcomed the recent Ministerial statement that culling would not be extended outside the trial areas while the trial continues.

### Identifying and handling animals affected by tuberculosis

#### All cattle are routinely tested for tuberculosis

2.6 Under European Union law all cattle are routinely tested for the disease. The frequency with which animals are tested is stipulated by the relevant European Union directive (64/432) and varies between every year and every four years, according to the previous incidence of the disease in the parish.<sup>4</sup> The test (commonly known as the "skin test") involves a local veterinary inspector injecting the animal with tuberculin. If the animal reacts to the test, a lump forms where the tuberculin was injected. Depending on the size of the lump, the animal is designated as a 'reactor', 'inconclusive reactor' or as being clear of tuberculosis. Inconclusive reactors are kept in isolation and re-tested every 42 days. If their results are inconclusive on three occasions they are designated as reactors and slaughtered.

2.7 If tuberculosis is confirmed after the skin test result (at a laboratory or at the slaughterhouse post-mortem), local SVS staff designate inconclusive reactors as reactors using a more severe interpretation of the skin test. They may also decide to remove animals which have been in close contact with reactors (such animals are known as

<sup>2</sup> Other possible causes of the spread of tuberculosis include cattle to cattle transmission, transmission through soil and transmission through other wildlife reservoirs, such as deer and foxes.

<sup>3</sup> House of Commons Environment, Food and Rural Affairs Committee, 'Badgers and bovine tuberculosis', HC 432, April 2003.

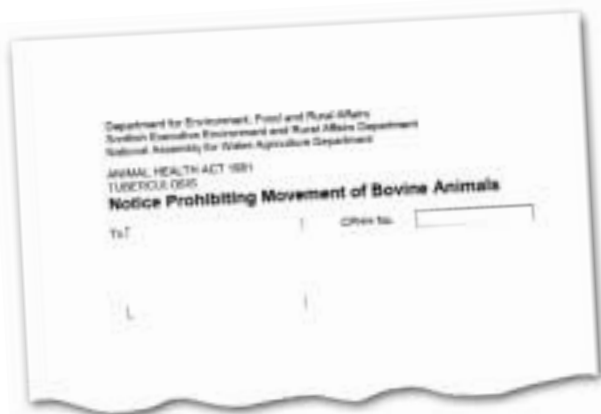
<sup>4</sup> Some instances of tuberculosis are picked up through routine post-mortem testing of all meat carcasses at the slaughterhouse by the Meat Hygiene Service.

"direct contacts"). A confirmed incident of bovine tuberculosis also triggers tests on contiguous farms, and a process of tracing animals which have recently been moved out of the herd. Unlike foot and mouth disease, which leads to the slaughter of whole herds of animals, tuberculosis tends only to affect a proportion of the herd. In 2002 the number of animals slaughtered because of tuberculosis represented less than one per cent of the total number of animals tested that year.

- 2.8 The outbreak of foot and mouth disease and the consequent restrictions on access to farms led to significant backlogs in testing for tuberculosis, peaking at 5,305 tests in February 2002. By March 2003 the backlog had reduced to 794 tests, of which eight per cent were overdue by more than a year.

### After an outbreak, farms are subject to movement restrictions

- 2.9 After reactors are found, herd owners are served with a notice placing their premises under movement restrictions, which in most circumstances prevent the farmer from moving his cattle off the farm and from bringing new animals on to it. If tuberculosis is not confirmed by post-mortem examination or bacteriological culture, the movement restriction is lifted after a single clear test carried out 60 days after the isolation or removal of the reactor cattle. If tuberculosis is confirmed, restrictions are lifted after two consecutive clear tests carried out at 60 day intervals. Thus the minimum duration of restrictions for a farm where tuberculosis is confirmed is four months (120 days).



- 2.10 Difficulties accessing farms during the foot and mouth outbreak had a significant effect on the length of movement restrictions. Additionally movement restrictions were introduced for some herds overdue their follow up tests. Between the years 2000 and 2002, the average duration of movement restrictions for farms across Great Britain increased from just over 100 days to 250 days for unconfirmed incidents, and from just over 200 days to 350 days for confirmed new incidents. By the end of December 2002, 779 farms (4.5 per cent of herds registered with SVS) in Wales were under movement restrictions because of bovine tuberculosis.

### The Assembly recently announced an interim package of measures to combat bovine tuberculosis

- 2.11 This section outlines several policy changes recently implemented by the Assembly, together with the other steps that it is taking in concert with other agriculture departments to address issues associated with the management of bovine tuberculosis. As well as government policy, there are practical steps individual farmers can take to reduce the risk of bovine tuberculosis affecting their herds. Such steps include implementing robust biosecurity measures and conducting careful checks on animals brought onto the farm from elsewhere.
- 2.12 In May 2002 the Assembly announced an interim package of tuberculosis control measures. This package included a two year pilot of the Gamma Interferon blood test as a supplementary test in herds under restrictions. The pilot is voluntary and is also taking place in certain parts of England, aiming to determine whether use of the supplementary blood test detects disease at an earlier stage and therefore contributes to eradicating disease from herds more quickly than the skin test alone. A supplementary package of measures, announced in October 2002, also allowed, in certain circumstances, licensed movements of cattle from herds under movement restrictions, where the animals being moved had not reacted to the skin test.
- 2.13 In November 2002 the Assembly announced relaxations on movement of cattle onto herds under movement restrictions, subject to a detailed risk assessment by SVS staff. This package of

measures was designed to help farmers affected by bovine tuberculosis to replace animals lost after reacting to the skin test.

- 2.14 The Assembly has included within its published budget an additional £4 million available to support SVS's work on tuberculosis eradication over the two financial years commencing April 2003. Such funding supplements Defra's central funding of SVS in Wales. The Assembly has invited the SVS to recruit an overseeing valuer to work directly with the SVS and private valuers, and additional staff to monitor market prices.
- 2.15 The Assembly has also co-operated with other agriculture administrations - Defra and the Scottish Executive - in reviewing the existing strategy for controlling bovine tuberculosis with the view to publishing new medium and long-term strategies in the autumn.

## Bovine tuberculosis has a serious impact on farmers

- 2.16 The consequences of an outbreak of tuberculosis can affect farms for some time because of the length of movement restrictions subsequently imposed. Movement restrictions tend to lead to farms becoming either over-stocked or under-stocked. Where relatively small numbers of animals are taken and restrictions remain in place, farms rearing their own replacements can become overrun with calves produced by the remaining animals while restrictions are in place. Such farms are usually forced to retain these calves beyond the optimum time to sell them (usually soon after birth). Alternatively, farms can lose a substantial part of their herd as animals react to the skin test. All three case studies in this section exemplify the effects of farms becoming over-stocked or under-stocked as a result of tuberculosis.

## CASE STUDY 1

The farmer at Farm A described his recent tuberculosis outbreak as 'the worst thing that had happened' during his forty years' farming. The farmer moved his farming operation to a 162 acre farm in west Wales in 1999. His herd, predominantly dairy but with a small contingent of beef animals, was tested clear of tuberculosis before the move and had been carefully bred over twenty-five years. By March 2000, the 181 head herd had gone down with tuberculosis. Since then the farm has been free of movement restrictions for only six months. 40 animals have been slaughtered because of tuberculosis, many by way of shooting on the farm premises. The farmer and his wife compared the outbreak with bereavement.

The farmer described the cashflow problems which affected the farm following the outbreak, estimating gross consequential losses of £14,000 per year (mainly due to a one third fall in milk sales, as well as loss of calf sales), plus a £40,000 cost of replacement animals. The farm received compensation of £57,000 as well as insurance payments.

The farmer and his wife described the way that tuberculosis had locked up their farm, preventing them from fulfilling their plans to expand the dairy herd and to employ their three agriculturally trained children on the farm. The farm has also experienced major overstocking, bringing with it welfare problems for the animals and accommodation problems, particularly during the winter months.





## CASE STUDY 2

Farm B has experienced both over-stocking and under-stocking since its 300 strong beef and dairy herd first went down with tuberculosis in March 2001. In November 2002 the farm went down again after being clean for six months with the loss of 114 animals overall. 45 were shot on the farm premises, which was hugely distressing to the family. The farmer volunteered to participate in the Gamma Interferon trial and lost 59 animals in this way, of which only 6 subsequently proved positive.

This farm has lost all of its milking cows as a result of tuberculosis and no longer receives any milk sales revenue. Cashflow has been a major problem and the farmer has only been able to survive through financial prudence. The effects will be long-term as it will take two years to re-generate beef income. In the interim, the specialist slaughterhouse in Yorkshire, which usually pays a premium for his animals, will no longer accept them because of the tuberculosis outbreak. This has reduced the farm's beef income by £100 per animal.

The farmer and his wife described tuberculosis taking away all of their choice and making it much harder to plan ahead. They have been able to bring in 40 replacement animals, but will have to wait two years before they can be sold as beef. The farmer observed that the replacements were of lower quality than the animals he lost. The farmer described badgers on the farm getting into his animals' feeding boxes. Fortunately the farm was insured and received payments for the animals lost. This helped to offset the farm's consequential losses and helped the farm through the early stages of the outbreak.



## CASE STUDY 3

This predominantly dairy farm has been overstocked by around 150 calves since it first went down with tuberculosis. 21 animals have been destroyed out of a herd of 200, with movement restrictions imposed since June 2002. This, together with the fact that milk was needed for the additional calves on the farm and the inability to replace lost or non-productive stock, has caused a fall in milk sales of just over one third.

The farm has incurred additional costs in terms of employing casual labour to assist in the five tests undertaken so far, feed for the surplus calves (after the farm ran out of its own silage) and lost calf sales revenue arising from the movement restrictions. This has led to an increased overdraft and greater scrutiny from the farm's bank manager. The farmer and his wife are extremely anxious about how the farm will fare if it continues to remain subject to movement restrictions. The movement restrictions have prevented the farm from pursuing its plan to expand its dairy herd in response to the lower price of milk and hence profit margins.

There have been welfare problems because of the overstocking. Animals have caught pneumonia and salmonella, leading to increased veterinary costs. Two animals were put down, which could have been operated on had there been sufficient space for convalescence. There are chronic problems of accommodation and grazing capacity. Last November the farm was given a licence to replace 20 cattle but was only able to bring nine new animals onto the farm because of the lack of space.

The farm is insured against tuberculosis and has been able to recover just under half of its consequential losses from its policy. However its annual premiums have increased from £200 to £3,000 over the last two years.



2.17 The impact of an outbreak of bovine tuberculosis can be felt in a variety of ways on affected farms, depending on the nature of the outbreak and the business of the farm. The major types of impact can be classified as:

- ▶ financial impacts on the farm business;
- ▶ effects on the welfare of animals; and
- ▶ personal and emotional effects on the farmer and their family.

Each is considered in turn below.

### **Farmers suffer consequential losses above the market value of the animals slaughtered**

2.18 Although the Assembly pays compensation to farmers to cover the market value of the animals slaughtered, the imposition of movement restrictions and the consequent over- or under-stocking described above places an additional financial burden on the farm business. This leads to farms suffering consequential losses over and above the capital value of the animal slaughtered. A recent academic study<sup>5</sup> and government policy review<sup>6</sup> have attempted to quantify the extent of consequential losses. As every instance is different, however, it is very difficult to generalise about the likely effect of tuberculosis on an individual farm. However, the National Farmers' Union recently estimated the average cost to farms of £36,000 in giving evidence to a House of Commons Select Committee<sup>7</sup>.

2.19 The major consequential losses experienced by farmers relate to the:

- ▶ loss of milk sales (paragraph 2.20);
- ▶ loss of beef sales (paragraph 2.21); and
- ▶ various smaller consequential losses arising from additional costs incurred during the outbreak (paragraph 2.22).

As well as financial losses, uncertainty about the duration of movement restrictions can render business planning very difficult.

2.20 Dairy farms subject to movement restrictions arising from bovine tuberculosis often lose a substantial proportion of their milk sale revenue. Where dairy farmers buy in their own replacements, the size of the business reduces substantially while restrictions are in place. For a dairy farmer this can have a serious impact on their milk sales (Case Studies 1-3). A dairy farmer whose farm ends up over-stocked with animals, on the other hand, might exceed their milk quota and be forced to pay a super-levy.

2.21 Generally, it takes two years to rear animals for sale as beef. During an outbreak of tuberculosis, beef farmers can suffer a loss of calf sale revenue as well as losses in the second year as the farm rears replacements for the animals lost. Although farmers can move cattle from restricted herds to a slaughterhouse (either directly or via a slaughter market or collection centre) under licence, licensed movements between restricted farms are limited to farms in neighbouring SVS regions. Case Study 2 shows that this can reduce the sale price achieved.

2.22 As well as the loss of dairy, beef or calf sale revenue, farms subject to tuberculosis movement restrictions incur additional costs which add to their consequential losses. Some of these costs are described in Case Study 3 and include:

- ▶ additional feed and handling costs as the farmer's land is unable to cope with the intensity of stocking levels;
- ▶ the cost of additional labour to administer repeated tests, such as gathering and presenting animals for testing (this cost is higher in the summer months when animals are put out to pasture);
- ▶ the cost of additional accommodation to house inconclusive reactors or replacements brought onto the farm under licence;
- ▶ where a farm is over-stocked, the cost of additional silage and feed; and
- ▶ additional veterinary costs if stocking intensity leads to greater spread of other conditions, such as pneumonia or salmonella.

5 ADAS Economics and Business Consultancy, 'The Cost at Farm Level of Consequential Losses from Tuberculosis Control Measures', June 2000.

6 Department of Agriculture and Rural Development Northern Ireland, 'Control of Bovine Tuberculosis Policy Review, July 2002.'

7 House of Commons Environment, Food and Rural Affairs Committee, 'Badgers and bovine TB', HC 432, paragraph 10.

2.23 Many farmers have insurance cover against consequential losses arising from bovine tuberculosis. Usually such cover helps to offset the farmer's consequential losses rather than cover them in full. Insurers offer a range of products, providing various types and levels of cover. It is unusual to offer standalone tuberculosis insurance - most insurers require farmers to take out all of their farm insurances with them if they are to underwrite tuberculosis. It is also increasingly common for new policies to be available only to those farmers who have not experienced a recent tuberculosis outbreak, meaning that insurance against bovine tuberculosis is unavailable to some farmers (depending on the criteria used by insurers when new policies are proposed). Premiums for tuberculosis insurance have increased dramatically in recent years, as disease incidence has risen - see the box below.

#### Rising premiums for tuberculosis insurance

The underwriters we spoke to indicated that payments for claims on their tuberculosis policies were considerably higher than the premiums they received. If the incidence of bovine tuberculosis does not reduce, it is likely that the nature or, in the worst case scenario, availability of tuberculosis cover will alter. Underwriters expressed concern about the future viability of tuberculosis cover with such uncertainty about its cause (paragraph 2.5).

#### A tuberculosis outbreak leads to animal welfare issues for remaining stock

2.24 When farms become over-stocked as a result of a tuberculosis outbreak, serious shortages of accommodation can mean that animals which remain on the farm often suffer from welfare problems. The lack of accommodation can also lead to problems treating animals which are suffering from other conditions, especially if they need specialist accommodation or isolation following a surgical procedure. Farmers at our focus group also told us that the whole collection and testing process was stressful for animals. At the time of testing there were occasional falls, abortions and a general reduction in milk production.

#### Bovine tuberculosis has personal impacts on farmers and their families

2.25 Farmers told us that an outbreak of bovine tuberculosis had a serious emotional impact on them and their families. At our focus group, farmers described the trauma experienced by their children as familiar animals were slaughtered on the farmyard. They said that children often rear a particular batch of calves, and that the loss of such animals could be especially traumatic.

2.26 Farmers also described the stress and anxiety they experience during an outbreak of tuberculosis. This related to the considerable uncertainty they face about the length and severity of the outbreak, the problems of business planning and a sense of acute frustration that they were losing their animals while nothing was being done to tackle what they believe is the cause of the spread of bovine tuberculosis, the badger. A selection of comments made by farmers at our focus groups is in the box below.

#### Comments made by farmers about the personal impact of an outbreak of bovine tuberculosis

*'You just can't plan how much food to buy, you don't know how much grass you want. It's very difficult.'*

*'There's no sadder sight than seeing that pick-up with forty calves on it, and shooting calves and throwing them on top of the others.'*

*'My son was in tears when we lost four or five heifers. When they pick them up you try to avoid seeing them go...they know where to pick them and you know, you just go into the house and hope that they won't come and ask for help to throw them into the pick up.'*

*'We're killing the cows but we're not getting rid of the source [ie badgers].'*

*'There is a feeling of frustration more than anything else...we can't see a way forward.'*

*'The disease has virtually gone out of control...It's desperation....You can't just see your business go down the pan. This can sort of go on for months and months. Sitting under restrictions, you can't do anything and the bank's after you and you can't pay this and you can't pay that. There has to be a limit.'*

*Source: National Audit Office Wales focus group of farmers*

## Farmers are compensated by the market value of the animal slaughtered

2.27 Under the Animal Health Act (1981), Ministers<sup>8</sup> may seize and destroy animals to prevent the spread of various notifiable diseases, subject to paying compensation for any animal seized. Ministers<sup>8</sup> can make orders relating to particular diseases, or means of determining the value of the animal at the time of seizure.

2.28 Before 26 August 1998, farmers were compensated on the basis of 75 per cent of a market value, which was set each month. This operated in a similar way to the current arrangements for compensating farmers for animals with brucellosis, with no role for private valuers (see Figure 14 on page 37). Specific arrangements for compensating farmers for bovine tuberculosis are set out in the Brucellosis and Tuberculosis (England and Wales) Compensation (Amendment) Order (1998) - before the Assembly was established - which increased compensation to the full market value of the animal to respond to the concerns of farmers about the financial losses caused by movement restrictions.

2.29 The State Veterinary Service is responsible, on behalf of the Assembly, for ensuring that animals affected by bovine tuberculosis are valued rapidly to facilitate prompt removal in the interest of disease control. The valuation is then passed to the Assembly, who ensure that farmers and valuers receive their compensation payments and valuation fees respectively. Figure 5 shows the variety of ways in which the market value of an animal affected by bovine tuberculosis is determined, and that private valuers are involved in most cases. Compensation is usually based on a professional valuer's certificate of an animal's market value, in accordance with the relevant legislation. Farmers participating in our focus group indicated that they were satisfied with the valuations provided by private valuers for animals slaughtered because of bovine tuberculosis. However, the effect of movement restrictions on affected farms means that, once they have received compensation for animals slaughtered, farmers may not be able to restock for some time (by which point the market value for cattle may have appreciated or depreciated).

Figure 5

### Determining market value

**Veterinary officers** (16 per cent of animals valued in 2002).

SVS veterinary officers can agree a valuation with a farmer. This tends to involve small numbers of commercial animals, typically no more than five.

**Valuation by private valuers** (84 per cent of animals valued in 2002).

Farmers have the right to request valuation by a private valuer of their choice. Typically they nominate the local auctioneer, who sells their healthy animals and from whom they buy in replacement animals. Where this valuer acts alone, the process is known as **single valuation** (40 per cent of animals valued in 2002).

SVS has the option to nominate a valuer to value animals on their behalf alongside the valuer nominated by the farmer. For a variety of reasons, this is common practice. The use of dual valuers is known as **dual valuation** (44 per cent of animals valued in 2002).

### Arbitration

In a small number of cases, the farmer and the valuer or valuers, are unable to agree a valuation. In such circumstances, the valuation is referred to arbitration. The Royal Institution of Chartered Surveyors then nominates a valuer, whose valuation is binding.

Source: National Audit Office Wales

2.30 There is no additional cost to the Assembly for valuations by SVS's veterinary officers. The Assembly pays private valuers, whether nominated by the farmer or SVS, on the basis of a set scale of charges which varies according to the number of animals valued and whether they are commercial or pedigree.

2.31 Valuers we spoke to explained that the valuation of cattle is an art and not a science, depending on human judgement. We also spoke to farmers and Holstein UK (the breeding society for pedigree Holstein and Friesian animals) about the factors affecting market value. Each animal has its own particular qualities and characteristics, which have a strong influence on its market value. Figure 6 opposite outlines some of the issues which can affect the market value of a cow.

<sup>8</sup> Of either the United Kingdom government or Welsh Assembly Government, depending on the disease.

Figure 6

### Factors affecting market value

Many specific factors affect the value of an animal, in addition to the basic rules of supply and demand. The following list includes some of the key issues which affect market value:

- ▶ **the individual characteristics of an animal**, such as size, weight, legs and feet, body shape, calving record, genetic characteristics, general appearance, lameness and, for dairy animals, milk production and mammary systems;
- ▶ **seasonal factors**, such as prices rising substantially towards the end of the dairy quota period as demand for dairy production capacity increases;
- ▶ on any particular day, the market price is strongly influenced by the **number and type of buyers**, and the **amount of animals** available for sale;
- ▶ the **weather** on market day can affect whether people attend, having an effect on demand;
- ▶ **pedigree status** as pedigree animals are generally worth more than commercial animals, although the premium is generally only substantial where the pedigree animal comes from a herd with a strong reputation for its bloodlines and genetics;
- ▶ for dairy animals, the key criterion is generally the **volume of milk** the animal produces;
- ▶ each pedigree herd has its own unique **herd name**; for the most successful breeding herds, this can prove an extremely strong brand name producing premium prices; and
- ▶ **the nature of the offering at sale** can affect market prices; for example, at some markets there is demand for heifers with calves at foot; on other days, demand will be stronger if the heifers and calves are sold separately; similarly, buyers will generally pay a premium for a whole herd sold as a single production unit.

Source: National Audit Office Wales



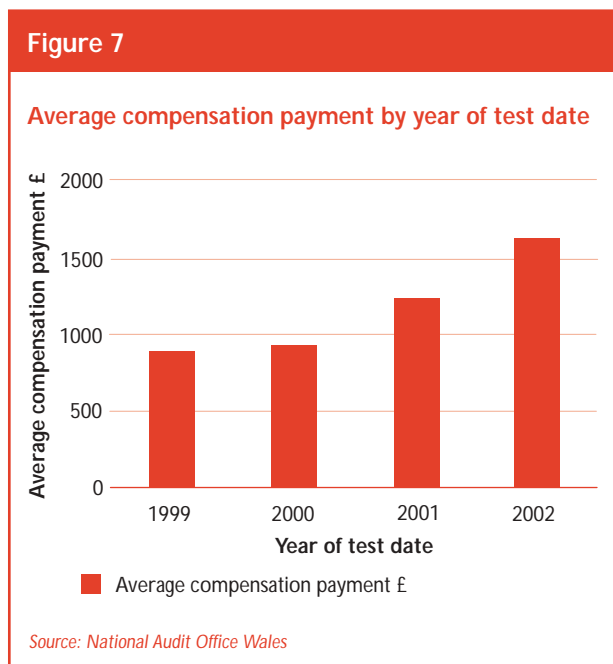
### KEY POINTS ON PART 2

- ▶ Incidence of bovine tuberculosis has risen sharply in recent years in Wales: between 1996 and 2002 the average annual increase in incidence of tuberculosis has been 29 per cent. Just under 5,000 animals were slaughtered in Wales in 2002.
- ▶ Tuberculosis is usually identified through routine and follow-up testing of herds. When tuberculosis is identified, herds are placed under movement restrictions until one or two consecutive clear tests have taken place. In 2002, the average duration of movement restrictions rose to one year for confirmed new incidents.
- ▶ The impact of an incident of bovine tuberculosis is serious for farmers, who suffer financial losses, stress and anxiety. Other animals are affected as tuberculosis can cause animal welfare problems on farms.
- ▶ Farmers receive compensation from the Assembly which is based on the animal's full market value; usually this is decided by an SVS veterinary officer or a private valuer.



## PART 3 Compensation for animals slaughtered exceeds underlying market values

- 3.1 Average compensation payments for tuberculosis have increased over the period in which the Assembly has paid full market values for animals slaughtered, the period between 1999 and 2002. **Figure 7** shows that there was an 82 per cent increase in average valuations for all animals in Wales over this period.



- 3.2 This part of the report focuses on whether compensation payments reflected market values for healthy animals, in line with Assembly policy. We analysed SVS data on animals whose tests took place in the calendar years 2000 and 2002 (until 11 October 2002) and compared it with available information on market trends in those years. We did not include 2001 as the foot and mouth outbreak meant that it was not a representative year. We distinguished between commercial and pedigree animals (a commercial animal being one not registered with a pedigree society), since the latter generally attract higher values. In 2000, 84 per cent of animals valued as a result of bovine tuberculosis were commercial; by 2002 this had reduced to 69 per cent. We also compared average valuations in Wales with those in other countries.
- 3.3 Our analysis focused on overall patterns and trends, since it would have been impossible to examine individual valuations of animals which had been destroyed. Given the highly specialised

nature of valuing cattle, our analysis and conclusions were supported by a consultant valuer based outside Wales, who is a fellow of the Central Association of Agricultural Valuers and member of the Royal Institution of Chartered Surveyors. Our consultant has over thirty years' experience in livestock valuations.

### Average valuations for commercial animals in 2000 and 2002 were considerably higher than underlying market prices

#### Average valuations for commercial animals rose by 50 per cent between 2000 and 2002

- 3.4 The average compensation payment for commercial animals, whose test date was in the calendar year 2000, was £778. Figure 8 shows that, in 2002, this increased by 50 per cent to £1,164, driven by rises of over 50 per cent in average commercial compensation valuations in the areas covered by SVS Cardiff and Carmarthen, rather than Caernarfon (where the average commercial valuation rose by only 3 per cent over this period).<sup>9</sup> A possible reason for this increase is the introduction of a "standard card" of valuations during the foot and mouth outbreak (designed to speed up the process of valuing). Farmers could choose between taking a valuation from the standard card and individual valuation by a valuer. The upper limit of the standard card was £1,150, a level very similar to the average commercial valuation for tuberculosis reactors in 2002.

### A range of indicators suggest that the market price for commercial dairy animals was lower than the valuation of tuberculosis reactors

- 3.5 We carried out a detailed analysis of market prices for commercial animals in 2000 and 2002, using the following sources:
- Defra statistics on prices of healthy commercial animals sold at markets in England and Wales (these reflect dairy prices only as the data did not include beef breeding stock);

<sup>9</sup> Appendix 4 provides a graphical summary of the regional differences between average valuations for both commercial and pedigree animals.

- ▶ indicative market prices for BSE and brucellosis, which are based on commercial market prices (see Figure 14 on page 37); and
- ▶ reports of dispersal sales taken from the farming press.

### Dispersal sales

A dispersal sale takes place when a farmer dies, or decides to sell their business. The sale involves the dispersal of all of the farmer's stock, including livestock.

Many farmers believed that dispersal sale prices were a better comparator as they contain all stock from a farm, rather than simply those animals a farmer chose to offer at market. Farmers observed that they would not usually sell many of the animals slaughtered because of bovine tuberculosis. Consequently they did not consider commercial market prices entirely accurate comparators for valuations of animals slaughtered because of bovine tuberculosis.

3.6 None of these sources provides an exactly comparable set of data with which to compare average valuations. For example, they do not take account of the relatively high levels of private trading that took place in 2002 when farmers began to restock after the foot and mouth outbreak. Average market prices are distorted by the fact that many dairy farmers argue that they do not sell their best animals at market, preferring to keep them for milking and breeding. And figures from dispersal sales are distorted by the inclusion within them of both poor quality animals which would never normally be sold at market and pedigree animals (the nature of the available data means that it is not possible to separate out such animals). Our findings are summarised in **Figure 8** and, graphically, in **Figure 9** on page 26, and set out in more detail in Appendix 3.

3.7 Notwithstanding the limitations of the data, all these comparisons point to a clear, material discrepancy between average valuations for compensation purposes and available market data in both 2000 and 2002. A wide range of indicators clearly suggest that, on average, farmers received compensation which was far in excess of average market prices for commercial animals. For example, Figure 8 shows that the average compensation valuation in 2002 was 57 per cent higher than the average price of a commercial animal at dispersal sales.

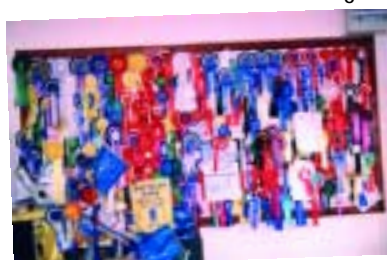
3.8 Furthermore, Figures 8 and 9 show that in 2002, the difference between average compensation payments and indicators of market price became more pronounced than in 2000. Figure 8 shows that, while average compensation payments for commercial animals rose by 50 per cent between 2000 and 2002, the various indicators of market prices increased by a much smaller amount, between one per cent and 29 per cent (see Appendix 5). This may well reflect the effect of the standard card introduced during the foot and mouth outbreak (paragraph 3.4).

3.9 The net effect of the discrepancy between compensation valuations and average market prices suggests that in 2002, the Assembly paid considerably more in compensation than they would had valuations better reflected underlying market prices. As an illustration of the potential impact of this discrepancy, if the brucellosis or BSE indicative market prices had been applied to tuberculosis compensation payments in 2002, it would have reduced the Assembly's expenditure by some £1.8 million. Based on the average price of commercial animals sold at dispersal sales, we estimate that the Assembly paid £1.24 million above the underlying market price.

## Average valuations for pedigree animals in 2000 and 2002 were considerably higher than underlying market prices

### The average compensation paid for pedigree animals increased considerably between 2000 and 2002

3.10 Pedigree animals are an important element of animals slaughtered because of tuberculosis. The proportion of pedigree animals valued rose from 16 to 31 per cent of all valuations between 2000 and 2002. The majority of pedigree animals in Wales are registered with Holstein UK,



Photograph courtesy of Holstein Journal 6-02

the breeding society for Holstein and Friesian cattle. Their figures show that the number of animals registered in Wales increased by 78 per cent between 2000 and 2002.



**Figure 8**

**Comparison of tuberculosis compensation payments and underlying market prices in 2000 and 2002 for commercial animals**

**2000**

TB compensation for commercial animals	Average compensation payment		Maximum valuation
<b>All Wales</b>	<b>£778</b>		<b>£4,000</b>
Commercial market price information	Average market price	Percentage by which average compensation paid was higher than the market value	Maximum market price
Defra English and Welsh market sales (dairy animals) <sup>1, 2</sup>	£532	46%	£612 (maximum of the average prices for first quality)
Dispersal sale reports reported in the farming press	£603	29%	Not clear
Brucellosis maximum compensation payable	£433	80%	£468
BSE maximum compensation payable for confirmed BSE	£424	83%	£448

**2002**

TB compensation for commercial animals	Average compensation payment		Maximum valuation
<b>All Wales</b>	<b>£1,164</b>		<b>£6,500</b>
Commercial market price information	Average market price	Percentage by which average compensation paid was higher than the market value	Maximum market price
Defra Welsh market sales (dairy animals) <sup>1, 2</sup>	£600	94%	£951
Dispersal sale reports reported in the farming press	£743	57%	Not clear
Brucellosis maximum compensation payable	£560	108%	£579
BSE maximum compensation payable for confirmed BSE	£512	127%	£586

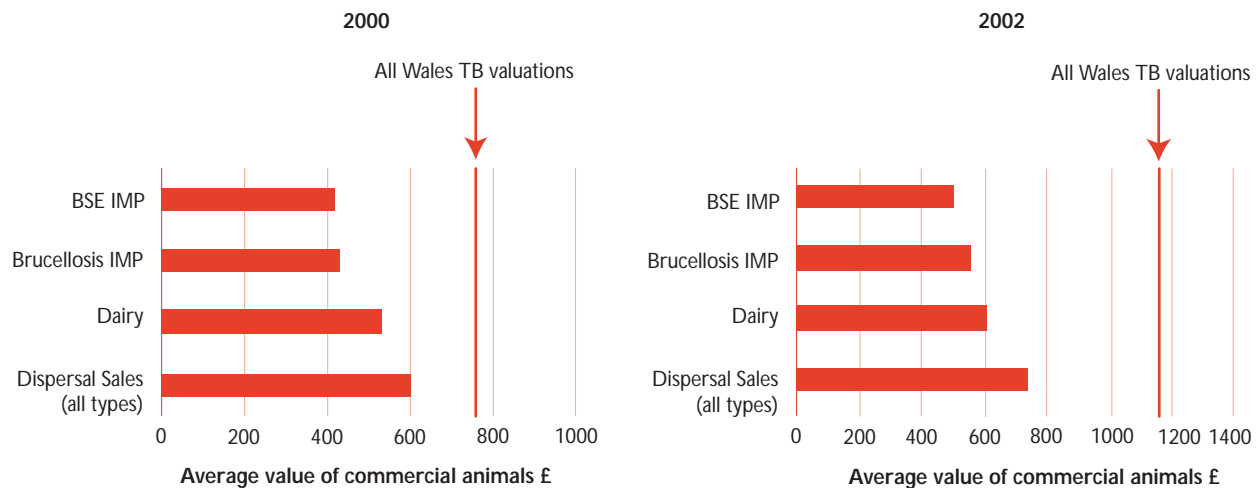
**NOTES**

1. Data was not available for Wales alone for 2000 but was for 2002.
2. The data available for beef animals does not distinguish between breeding stock and fattened stock, and so was not included in this analysis. More detail on average beef prices can be found in Appendix 3.

Source: National Audit Office Wales

Figure 9

Commercial valuations and market prices in 2000 and 2002



Source: National Audit Office Wales

3.11 The average valuation for pedigree animals increased by 49 per cent between 2000 and 2002, from £1,769 to £2,641. This is a very similar increase to that applied to commercial animals (paragraph 3.4)<sup>10</sup>. The increase in average pedigree valuations was especially pronounced in the area covered by SVS's Carmarthen office, where the average pedigree valuation more than doubled between 2000 and 2002<sup>11</sup>.

**Average valuations for pedigree animals were consistently higher than market values**

3.12 We drew our comparative market price data for pedigree animals from different sources to the ones we had used for commercial animals. Holstein Friesian is the dominant breed in Wales. For pedigree animals valued in 2002, we focused our analysis on SVS's Carmarthen office, and market prices for Holstein Friesian animals, because:

- ▶ Carmarthen was the only SVS office to collect pedigree certificates and place them on the relevant paper file;
- ▶ 70 per cent of pedigree animals valued in 2002 came from the area covered by SVS Carmarthen; and

- ▶ 83 per cent of pedigree animals valued in Carmarthen were registered with Holstein UK.

Full details of our methodology are in Appendices 2 and 3. Our comparative market price sources for pedigree animals in 2000 and 2002 were:

- ▶ sales reports from pedigree society websites;
- ▶ sales information provided by Holstein UK from 16 complete Holstein Friesian herd dispersal sales illustrating what they described as the top end of the Holstein Friesian market; and
- ▶ an analysis of Holstein Friesian pedigree sales reports from the farming press.

3.13 The results of our analysis are set out in **Figure 10** and graphically in **Figure 11** overleaf. Figure 10 shows that in 2002 the average compensation payment was £2,502 for Holstein Friesian animals from the area covered by SVS Carmarthen. This is between 51 and 105 per cent higher than comparative indicators of underlying market price. This is consistent with the average compensation payment for all pedigree animals in that year, which was £2,641, some 61 per cent higher than the average market data for four breeds.

<sup>10</sup> Appendix 6 provides a comparison of the increases in underlying pedigree market prices compared to the increases in tuberculosis valuations.  
<sup>11</sup> Appendix 4 provides a graphical summary of the regional differences between average valuations for both commercial and pedigree animals.

**Figure 10**

**Comparison of tuberculosis compensation payments and underlying market prices in 2000 and 2002 for pedigree animals**

**2000**

TB compensation for all pedigree animals	Average compensation payment		Maximum valuation
<b>All Wales</b>	<b>£1,769</b>		<b>£10,000</b>
Pedigree market price information	Average market price	Percentage by which average compensation paid was higher than the market value	Maximum market price
Average price at all Holstein Friesian sales <sup>1</sup>	£994	78%	£18,375
Average price at Holstein Friesian sales for the 'best' complete Holstein Friesian herd dispersal sales <sup>2</sup>	£1,159	53%	£18,375
Average price of combined data for three breeds <sup>3</sup>	£1,184	49%	£18,375

**2002**

TB compensation for Holstein Friesians	Average compensation payment		Maximum valuation
<b>SVS Carmarthen office</b>	<b>£2,502</b>		<b>£22,500</b>
Holstein Friesian market price information	Average market price	Percentage by which average compensation paid was higher than the market value	Maximum market price
Average price at all Holstein Friesian sales <sup>1</sup>	£1,220	105%	£31,500
Average price at Holstein Friesian sales for the 'best' complete Holstein Friesian herd dispersal sales <sup>2</sup>	£1,654	51%	£31,500

**2002**

TB compensation for all pedigree animals	Average compensation payment		Maximum valuation
<b>All Wales</b>	<b>£2,641</b>		<b>£30,000</b>
Pedigree market price information	Average market price	Percentage by which average compensation paid was higher than the market value	Maximum market price
Average price of combined data for four breeds	£1,640	61%	£57,750

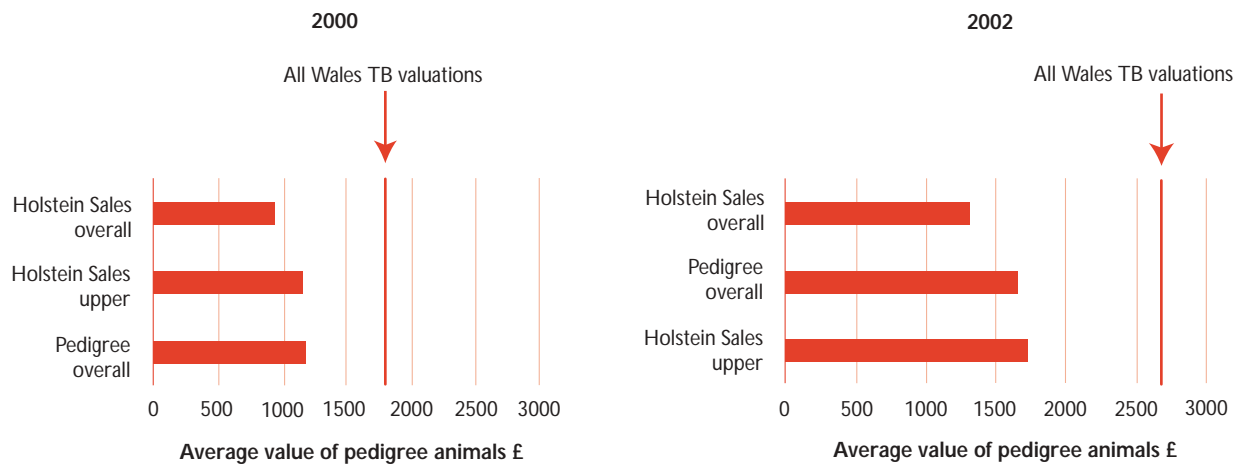
**NOTES**

1. This figure includes those for sales of Holstein Friesians at the upper end of the market.
2. Holstein UK described these sales as representing the top end of the market for Holstein Friesian cattle.
3. For 2000, there was no data available on market prices for the Charolais breed.

Source: National Audit Office Wales

Figure 11

Pedigree valuations and indicators of market price, 2000 and 2002



Source: National Audit Office Wales

3.14 As was the case with commercial animals, despite the limitations of the data we are able to conclude that average compensation payments in both 2000 and 2002 were considerably higher than underlying market trends. Based on our various indicators of pedigree market price, we estimate that in 2002, for pedigree animals, the Assembly paid £1.34 million in compensation above the underlying market price.

### 19 per cent of the Holstein Friesian animals valued in Carmarthen in 2002 did not have full pedigree status

3.15 To achieve pedigree status from Holstein UK, farmers have to be members of the society and register animals within 45 days of its birth so that registrations are directly traceable to the herdbook. Alternatively if the herd has predominantly Holstein Friesian origins, farmers can elect to grade the whole herd up to pedigree status. This process takes three generations of breeding. The first stage is known as ASR (the 'A' section of Holstein UK's supplementary register) and covers animals which are up to 50 per cent pedigree. The second is known as BSR (the 'B' section of Holstein UK's supplementary register) and covers animals up to 75 per cent pedigree. Animals with full pedigree status are more than 87.5 per cent pedigree. These thresholds reflect the requirements of the definition of pure bred in European legislation.

3.16 Holstein UK told us that animals at the two stages between applying for a whole herd grade-up and full pedigree status are not regarded as full pedigree animals. In January 2003, SVS informed valuers that such animals were not to be treated as if they had full pedigree status for the purposes of valuation. However, by that time 19 per cent (129 animals) of all Holstein Friesian animals valued in Carmarthen in 2002 had either ASR or BSR status. Figure 12 shows that in 2002 the average valuation for ASR and BSR animals, which are commercial beasts, was considerably higher than both the overall average market price for both pedigree and commercial animals. This suggests poor value for money, and that the Assembly paid more compensation for ASR and BSR animals than their market values.

3.17 Assembly officials were concerned that some animals, valued as pedigrees, were registered after the animal was identified as a reactor. Holstein UK examined a sample of one hundred animals from our sample which might have fallen into this category. They found that the majority of these animals were registered with the society long before the animal reacted to the skin test, but that in five per cent of cases there may have been cause for concern. The society depends to a large extent on the honesty of its members, but was sufficiently concerned about the risk of farmers attempting to grade up their herds between diagnosis of tuberculosis and valuation of animals that it agreed to institute the following measures immediately as a result of National Audit Office Wales' work:

Figure 12

Comparison of valuations of ASR and BSR animals and pedigree and commercial market prices

	Average Compensation £	Commercial animals (dispersal sales) £	Commercial variance	Average Holstein Friesian market price £	Pedigree variance
ASR	1,868	743	151%	1,220	53%
BSR	1,756	743	136%	1,220	44%

Source: National Audit Office Wales

- ▶ a four week delay between farmers applying for a whole herd grade up and the first visit by a field officer; and
- ▶ a requirement that in tuberculosis hotspots a written, instead of verbal, declaration of a herd's tuberculosis status was needed from farmers.

3.21 SVS Devon has traditionally maintained its information on compensation payments in paper ledgers, making collation of its data difficult. From January 2003, they maintained computerised records, although these did not distinguish between commercial and pedigree animals. For the 442 animals slaughtered in January, February and March 2003, the average compensation payment was £1,280, some 21 per cent lower than the average for all animals in Wales in 2002.

Average valuations have been much higher in Wales than elsewhere in the United Kingdom

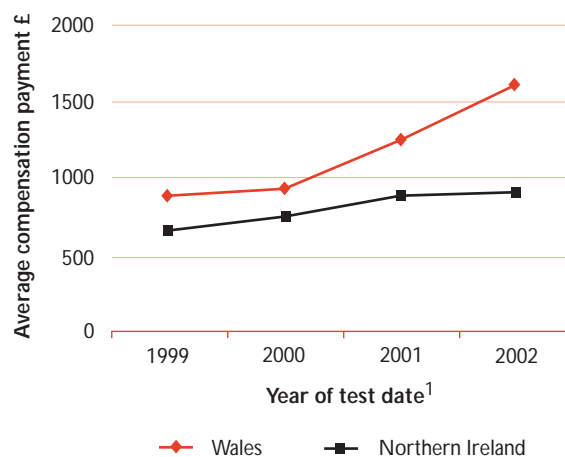
3.18 Bovine tuberculosis is a serious problem in Northern Ireland and, among other regions in England, Devon. We analysed the level of compensation payments in each of these areas compared with compensation payments in Wales.

3.19 In the financial year 2002-2003, by the end of March 2003 the average compensation payment for the 15,295 animals slaughtered in Northern Ireland as a result of bovine tuberculosis was £901. For commercial reactors the average was £755 (the Welsh commercial average was 54 per cent higher). For pedigree animals, which constituted 11 per cent of all animals valued, the average compensation payment was £2,090 for reactors (the Welsh pedigree average was 26 per cent higher).

3.20 Figure 13 shows that, while average compensation payments have been higher in Wales than Northern Ireland since 1999, this variance became much more marked in 2002 than previous years. This gives weight to the argument that the introduction of the standard card (a set valuation for cattle) during the foot and mouth crisis may have led to increased valuations in Wales (paragraph 3.4) as the standard card was not applied in Northern Ireland.

Figure 13

Comparison of the average compensation payment in Wales and Northern Ireland, 1999-2002



NOTE

1. The figures for Wales are based on the calendar year of the test date; those for Northern Ireland are based on the financial year starting on 1 April of that calendar year (for example in 1999 the Northern Ireland figures are taken from the 1999-2000 financial year).

Source: National Audit Office Wales and Department for Agriculture and Rural Development Northern Ireland

3.22 Although prices for animals at cattle markets within the United Kingdom may not always be completely uniform, they do not differ as widely as the levels of average valuations (otherwise Welsh farmers would source their animals in Devon and Northern Ireland).

#### KEY POINTS ON PART 3

Average compensation valuations in Wales rose by 82 per cent between 1999 and 2002. The increase was especially pronounced after the foot and mouth outbreak.

Average valuations in Wales have been considerably higher than those in Northern Ireland and Devon.

For both commercial and pedigree animals, a range of indicators of market price in 2000 and 2002 suggest that average compensation payments were considerably higher than market prices.

Based on our figures, valuations were, on average, at least 50 per cent higher than market values. Consequently we estimate that in 2002 the Assembly paid some £2.6 million in compensation payments more than it would have done had valuations been consistent with market values.



## PART 4 There are inflationary pressures on valuations, which are not effectively monitored by the Assembly

4.1 Part 3 described the difference between average compensation payments and underlying market prices for healthy animals. This part of the report considers what the Assembly is doing to ensure that compensation is in line with market values, in terms of both its control over the risks inherent in the process and its overall monitoring.

### The difficult position of those valuing animals risks inflating valuations

4.2 The current arrangements for valuing animals involve certain risks which have the potential to inflate valuations. This applies whether it is SVS veterinary officers or professional valuers carrying out the valuations. This part of the report describes those risks. The existence of risks does not, of course, mean that they necessarily give rise to unreliable valuation. And nothing in the following paragraphs is intended as a challenge to the integrity of the professionals involved in the valuation process.

4.3 The key function of veterinary offices is to control the spread of bovine tuberculosis. Rapid removal of reactors is an important element of disease control. Veterinary officers confirmed to us that, when they value animals, they are very aware of the need to ensure that the animal is valued and slaughtered as quickly as possible and may therefore include a limited amount above what they consider the true market value, rather than waiting for a private valuer to attend. Veterinary officers, like many valuers, are based in the rural community and have great sympathy for the plight of farmers affected by bovine tuberculosis (see Part 2).

4.4 When valuations are undertaken by professional valuers, under the current arrangements farmers have a free choice of who values their animals. Farmers told us that they usually request valuation by the local auctioneer. Often this auctioneer will have sold the farmer's healthy animals, and provided replacements, for many years; the farmer is often a retained client of the person who values their sick animals. The valuers we spoke to confirmed that they could potentially find themselves in a difficult position. While they are formally acting on behalf of the Assembly when valuing animals - and being paid by the Assembly for their services - farmers also consider their nominated valuer as their representative.

4.5 The difficulty of valuers' position is not limited to their relationship with the farmer. There are further pressures, which might manifest themselves in the following ways:

- valuers are in competition with each other, and can attract important new business by valuing animals with bovine tuberculosis. For example, in one SVS area in Wales, a single valuer had carried out valuations at over one third of all outbreaks in the first ten months of 2002. Gaining work valuing animals with bovine tuberculosis can lead to valuers gaining other business from the farmer, such as buying and selling healthy animals at their market;

- any valuations which exceed underlying market values risk setting a precedent or floor for future valuations - this process is sometimes known as 'valuation creep' and was exemplified during the outbreak of foot and mouth disease, when the standard card values (paragraph 3.4) effectively became the minimum compensation levels for affected animals. Those valuing animals can be placed in a difficult position when another valuer or veterinary officer has provided a particularly high valuation on a neighbouring farm, as this can create a minimum benchmark for other valuations in the area with no market mechanism to bring valuations back down. Other farmers expect valuation of their animals to match or exceed these valuation levels. Valuers do not want to lose business and, if other valuers or veterinary officers provide higher valuations, are under pressure to match them; and

- high levels of bovine tuberculosis can affect auctioneers' businesses as well as farmers'. Movement restrictions can prevent their clients selling healthy animals or buying replacements, meaning that some local livestock markets lose business, at least until farmers restock once movement restrictions are lifted - generally through the local market.

4.6 It is not possible to determine the precise effect that these risks materialising has had on levels of average compensation. However, the way the system operates means that the aggregate effect of individual valuations has led to the emergence of a separate market for tuberculosis compensation, related to the market for healthy animals but operating

independently of it. This market has dynamics of its own, characterised by "valuation creep". Its circumstances are also different from that of the real market - farmers do not want to sell animals, whereas the buyer, the Assembly, is very keen to purchase the animals to facilitate effective disease control. This places the seller in an extremely strong position, creates difficulties for valuers and can put the purchaser (the Assembly) in a weak position. The National Audit Office Wales did not seek to audit in any way individual valuations; the actions of professional valuers fall outside our remit and we therefore impute no criticism of their performance. Assembly officials, however, have concerns at the apparent growing divergence between market values and levels of compensation.

### **The Assembly currently relies on dual valuations to control the risks inherent in the valuation process**

4.7 The main tool used by the Assembly (through SVS, acting as its agents) to give it more confidence about the accuracy of the final valuation is the use of dual valuations (where a second valuer representing the Assembly is brought in alongside the valuer nominated by the farmer). Nearly half (44 per cent) of animals were valued by dual valuers in 2002 (Figure 5). The use of dual valuers is more common than it used to be, reflecting concern about levels of valuation. According to SVS officials, the effectiveness of a second valuer depends largely on the individual instructed, and the degree of independence they offer. Independence is maximised where the valuer is from another area, especially one where there is little or no tuberculosis, particularly since in hotspot areas valuers regularly act both for farmers and SVS. While most SVS officials accepted that the use of a second valuer had some impact in reducing valuations, this did not always succeed in reducing valuations to the level of underlying market values. Although SVS officials told us that they usually instructed valuers whom they considered would best represent their interests, there was no formal system for evaluating the services of second valuers.

4.8 The only other control sometimes exercised by SVS is to request justification of individual valuations. SVS officials are not required to seek justification for valuations, as their function is disease control. SVS managers sign off all valuations confirming that due process has been followed, to certify that compensation should be paid. However,

when an SVS manager considers a valuation excessive, they will sometimes write to the valuer asking for a justification for the valuation. This practice has never produced a reduction in valuation, although it is possible that it has had a deterrent effect on future valuations. Typically, the valuer responds to the letter with a detailed explanation of the value of the animal in question. However, SVS staff are not qualified to evaluate such submissions and, in any event, animals have been slaughtered by this time, so they cannot seek a second opinion.

### **The Assembly's monitoring of compensation payments is not effective**

4.9 The focus of attention for the Assembly, as well as SVS, is disease control. The rising incidence of tuberculosis has not been matched by the development of effective systems and processes to monitor and manage compensation payments. Despite projected expenditure of just over £8 million in 2002-03, the Assembly has no process for monitoring average compensation payments. It simply makes the compensation payments on receipt of the authorisation from SVS (nor is SVS expected to monitor compensation levels). The Assembly does not routinely maintain any management information about average compensation levels and the profile of compensation payments over previous years.

4.10 The lack of monitoring is caused in part by the very poor standard of SVS's information systems (this is not unique to Wales). Before January 2003, the three SVS offices in Wales operated separate financial ledger spreadsheets, containing different





information in a variety of formats. The spreadsheets were extremely basic and were not linked to VETNET, the veterinary information system used by SVS to maintain information about testing, test results and movement restrictions. Nor were they networked within SVS, nor available to the Assembly. Essentially they were no more than a computerised version of a basic paper ledger.

4.11 Some of the essential information which was missing included, in most instances:

- ▶ a basic description of the animal;
- ▶ whether the animal was commercial or pedigree, beef or dairy;
- ▶ the animal's age, sex, weight, dairy production and pregnancy status;
- ▶ how the animal was valued; and
- ▶ for pedigree animals, the animal's breed, classification, date of pedigree certificate and confirmation that the animal had full pedigree status rather than appearing on the breeding society's supplementary register (ASR or BSR).

Consequently the spreadsheets had very limited utility for monitoring and managing the Assembly's expenditure on tuberculosis compensation. (A considerable part of this study involved consolidating the various ledger spreadsheets into a single database that enabled us to analyse the information.)

4.12 The recent development of a new, uniform spreadsheet, used by all offices, represents an improvement. However, only one user can access the spreadsheet at a time and, although the spreadsheets in each office share a common format, they are not consolidated into a single, Wales-wide source of information. High quality information will not be available until a fully networked database is in use, linked to the veterinary information system.

#### KEY POINTS ON PART 4

The Assembly does not do enough to control the risks inherent in the system for valuing animals. The existence of risks does not necessarily mean that they give rise to unreliable valuations, nor are our findings intended to challenge the integrity of the professionals involved in the valuation process.

Those valuing animals, whether private valuers or veterinary officers, are in a difficult position, because of farmers' free choice of valuer, the effects of widespread tuberculosis on an auctioneer's business, competition between valuers for additional work which can arise from tuberculosis valuation and 'valuation creep', whereby high valuations become a benchmark or floor for future valuations.

The aggregate effect of the individual decisions of those valuing animals has produced a secondary market for affected cattle related to, but operating independently of, the primary market for healthy animals.

The Assembly relies on the use of second valuers to represent their interests to control valuations. The effectiveness of this practice appears variable depending on the independence and attitude of the second valuer. SVS also write to valuers to request justification for valuations - although this has not led to a reduction in any specific valuation queried, officials believe the practice may have a deterrent effect.

The Assembly has no process for monitoring compensation payments, despite projected spending of over £8 million in 2002-03. This is exacerbated by the limitations of SVS's information systems for recording compensation payments, which fail to record many basic details about the animals valued.



## PART 5 Lessons from elsewhere suggest there is considerable scope for the Assembly to improve its control and management of the valuation process

5.1 Part 4 described the factors which have the potential to drive an inflationary process of 'valuation creep' and the limitations of the control currently exercised over the process by the Assembly. In this part of the report we therefore consider how the Assembly might do more to control the level of valuations and look at the practices used by a variety of other organisations to ensure that compensation payments do not escalate. We conclude by examining the mechanisms used to control the cost of compensation for bovine tuberculosis in other countries, and in the United Kingdom for other notifiable diseases.

### The Assembly should do much more to assure itself that valuations are reasonable

5.2 In 2002-03, the Assembly spent £234,000 on the services of private valuers and just over £8 million in compensation payments based on valuations. Despite this, beyond the variable use of dual valuations, the Assembly has no arrangements to regulate the performance of the valuers whose services it pays for. For example, the Assembly has no criteria which a valuer has to meet in order to provide services, such as membership of a professional body or level of experience. It is indicative of the lack of attention paid to this area that the valuation form itself is out of date - it contains notes for guidance which still refer to the pre-August 1998 policy of paying compensation based on an indicative market value. (This point also applies to the way that the valuations are managed in England.)

5.3 In many other areas of public spending, where public sector organisations purchase services from private suppliers, there is a clear framework under which supplier performance is monitored. Typically such a framework includes sanctions and arrangements for the removal of suppliers whose services fail to meet the required performance standard, supported by clear partnership and communication arrangements to optimise the quality of service provided. None of this is in place in Wales: the Assembly has little or no contact with the valuers who provide services on its behalf.

5.4 Defra has made changes to the framework for valuing animals affected by 'exotic diseases' (such as foot and mouth disease) which require a rapid response to bring them under control as soon as

possible. Bovine tuberculosis is not an exotic but an endemic disease. There is now a list of approved valuers for use if and when an outbreak of an exotic disease occurs. The work of the approved valuers will be monitored by a group of senior valuers.

5.5 In the remainder of this report we compare arrangements in Wales with those used by others who, on the face of it, have been more successful in controlling compensation costs: livestock insurance companies, who have a direct financial interest in ensuring that the valuation of animals is accurate but for whom disease control is not an issue; and the Northern Ireland Department of Agriculture and Rural Development where average compensation payments have been much lower (paragraph 3.19). We also consider arrangements for controlling compensation levels for bovine tuberculosis in other countries, and in the United Kingdom for other animal diseases.

### The Assembly could improve its control by learning key lessons from the livestock insurance industry and Northern Ireland

5.6 There are key lessons about controlling the cost of compensating farmers both from the private livestock insurance industry and Northern Ireland. Although some circumstances are different in Northern Ireland, its systems provide a benchmark for more effective control of the valuation process in Wales.

5.7 We consulted two of the main providers of livestock insurance in Wales to find out about their cost control mechanisms, both for tuberculosis cover and general livestock policies. Tuberculosis cover provides payments which help to offset the consequential losses suffered by a farmer, supplementing compensation paid by the Assembly for the market value of the animal concerned. One insurance provider has recently moved away from providing compensation based on a proportion of the Assembly's compensation payment because it believed that the valuation of animals bore no resemblance to the company's view of real market values. Instead the company began paying up to a proportion of the farmer's disclosed maximum value of an animal in their herd. General livestock insurance was more relevant to this study, as this is based on the market value of the animal concerned. Insurance companies used a variety of mechanisms to control costs, set out in Case Study 4.

## CASE STUDY 4

### Cost control measures used by livestock insurers

- ▶ a requirement for policy holders to disclose the maximum value of any animal in their herd when proposing a policy;
- ▶ referring unusual, or particularly high valuations to a panel of specialist valuers;
- ▶ requiring farmers to provide evidence in support of particularly high valuations, for example invoices of sale, evidence from the breeding society, show results;
- ▶ individual valuation of animals with a value over £3,000 (7 per cent of all tuberculosis valuations in 2002) by an expert in the breed concerned, rather than the policy holder's local auctioneer; and
- ▶ a general move towards a risk-based approach to cover, where insurance and premiums depended on biosecurity measures, farming systems and testing intervals, with reductions for farmers following best practice in these areas.

Source: National Audit Office Wales



5.8 As in Great Britain, compensation in Northern Ireland is also based on full market value, although it operates under statutory instruments made in Northern Ireland. Average valuations in Northern Ireland have been lower than in Wales in recent years (paragraph 3.18-3.22).

5.9 The key difference between arrangements in Northern Ireland and Wales is that in the former private valuers carry out only around one per cent of valuations. The Department of Agriculture and Rural Development (the Department) employs eight valuation officers, who value all animals in the first instance, regardless of whether they are subsequently valued by a private valuer. They attend markets, dispersal sales and auctions. [An alternative, of course, to direct employment would be to contract out valuations to an approved panel of valuers, who would be expected to work within very clear guidelines as to the process to be followed and their prime responsibility to the Assembly. **Figure 14** shows that such a panel operates in the Republic of Ireland, where valuers receive very detailed weekly information about prevailing market prices.]

5.10 If it cannot agree a valuation with a farmer, the Department gives the farmer a choice of three valuers (selected on the basis of expertise relevant to the animals to be valued) from its panel of approved valuers. The Department is currently revising its conditions of panel membership. The independent valuer's findings are final and binding on both the farmer and the Department.

5.11 If an animal is valued above £1,500 (40 per cent of Welsh valuations in 2002 were above this level), the valuation officer or valuer in Northern Ireland has to complete a detailed form (with information on, for example, pedigree status, performance, value of progeny and show success) justifying the valuation. Where appropriate, valuation officers liaise closely with pedigree societies. For example, valuation officers have followed up issues such as pedigree certificates which did not match the animals being valued (leading to the farmer's expulsion from the breeding society); and an animal whose number of teeth did not match the year of birth recorded on the pedigree certificate (this matter proceeded to court).

5.12 There is a comprehensive information technology system in use to support the valuation process in Northern Ireland, containing thorough information about each animal, including the date of birth and movement history. This enables valuation officers to look for current valuations of similar animals, and trace the animal's history, prior to the valuation. The level of information is considerably more detailed than that available in Wales. In contrast to current practice in Wales, where animals have recently been brought onto the farm, the valuation officer finds out what the farmer paid for them (from their records of sales they attended, by asking the farmer, or by asking the auctioneer who sold the animal).

5.13 Valuation officers told us that some farmers in Northern Ireland had recently begun to instruct mainland valuers privately to value their animals. Sometimes such a valuation took place after tuberculosis had been diagnosed; at other times the valuations were proactive in case tuberculosis was subsequently identified.

Figure 14

### Alternative bases for compensation

#### Proportion of market value and levy - New Zealand

In New Zealand, farmers receive compensation for tuberculosis on the basis of 65 per cent of the fair market value of the animal. The market values are based on information provided by the New Zealand Meat Board and New Zealand Dairy Board for beef and dairy cattle respectively. Compensation payments are funded by a levy on all adult cattle slaughtered in New Zealand.

#### The ceiling - the Republic of Ireland

In the Republic of Ireland, tuberculosis compensation is paid on the basis of full market value, up to a ceiling of 2,540 Euros (£1,709)<sup>1</sup> per animal, with one pedigree stock bull per outbreak compensated at up to 3,175 Euros (£2,136)<sup>1</sup>. Animals are valued by independent valuers selected from a panel of over sixty. Panel valuers receive weekly updates on market prices from the relevant government department and they carry out valuation work in accordance with detailed guidelines prepared by the department. Additionally the department can reduce compensation for breaches of its rules, such as interference with tests, refusal to carry out tests and non-compliance with identification regulations.

In contrast to United Kingdom law, Irish law does not entitle the Minister compulsorily to remove non-reactors. The slaughter of contacts must be agreed with the farmer. When the department wishes to remove all or most of a herd (known as depopulation), in order to secure their voluntary agreement to have contacts removed for slaughter, farmers are entitled to defined additional grants (on top of the animal's market value).

In non-depopulation situations, two other add-on grants are payable to farmers, subject to certain conditions: one applies when more than 10 per cent of the herd is removed, to supplement income (until movement restrictions are lifted); and the other when lengthy movement restrictions are in place, to defray additional fodder costs.

#### Standard compensation - Italy

In Italy, animals affected by tuberculosis are valued according to a 'table valuation', which is calculated annually by the government. There are two scales, the higher of which refers to registered pedigree animals. The standard compensation rate for 2002 rises to a maximum payment, which is the equivalent of £400.

#### Indicative market prices - Brucellosis and BSE compensation in the United Kingdom

In the United Kingdom, compensation for animals with brucellosis is paid on the basis of a monthly indicative market price, based on market prices two months previously for commercial animals taken from a sample of nine markets (this includes one in Wales).

For BSE, there is an indicative market price for animals suspected of having BSE. Where BSE is subsequently confirmed, the compensation is 100 per cent of the indicative market price. Where BSE is subsequently not confirmed, compensation is 125 per cent of market price.

Compensation for the offspring of animals with BSE is based on a table of valuations, which varies according to the type and age of the animal.

#### NOTE

1. Based on exchange rate on 21 March 2003.

Source: Animal Health Board of New Zealand, Department of Agriculture and Food Republic of Ireland, State Veterinary Service and Defra

## Levels of tuberculosis compensation in other countries, and in the United Kingdom for other diseases, are controlled in a variety of ways

- 5.14 A variety of mechanisms are in place to calculate compensation for tuberculosis in other countries. Within the United Kingdom, there are different arrangements for calculating compensation for other diseases. Figure 14 on page 37 outlines the arrangements for tuberculosis compensation in New Zealand, Italy and the Republic of Ireland, and arrangements in the United Kingdom for brucellosis and bovine spongiform encephalopathy (BSE).
- 5.15 Such mechanisms can result in the government paying less than the full market value of every animal slaughtered. (In all these cases, farmers are expected to take out insurance where the animal's market value is higher than the level of compensation payable. In some cases, there is an industry levy which contributes to the difference between market value and compensation.) Nevertheless, they provide some useful further lessons for how the Assembly, short of developing a new policy, might tighten its grip on the compensation process.

### KEY POINTS FROM PART 5

The Assembly neither has a framework to regulate who carries out valuations, nor manages valuers' performance.

Controls are better in Northern Ireland and within the livestock insurance industry. The Assembly could learn valuable lessons from both. Northern Ireland employs its own valuation officers who value all animals. Where private valuers are instructed, the farmer's choice of valuers is limited to a selection provided to them by the Department.

In other countries, and for diseases such as BSE and brucellosis in the United Kingdom, compensation is based on factors other than full market value.

Taken together, the experience of Northern Ireland, the livestock insurance industry and elsewhere points to the need for the Assembly to take action on a number of fronts in order to achieve its present policy of paying compensation at the level of current market values. Possible areas for action are:

- ▶ the direct employment of valuation officers, or the use of a limited panel of approved valuers working within very clear guidelines;
- ▶ a fully independent second valuer (if this practice continues), including geographical independence;
- ▶ a preparedness to challenge valuations that appear too high, including recourse to arbitration or the courts in cases of clear disagreement;
- ▶ a requirement for fuller justification of valuations that differ markedly from the norm;
- ▶ routinely to request more documentary information on the animals valued, such as evidence of what the farmer paid for it; and
- ▶ a sophisticated management information system that facilitates proper monitoring by SVS and the Assembly.



# APPENDIX 1

## Key findings of recent reports on the foot and mouth outbreak by the Comptroller and Auditor General and Public Accounts Committee

- 1 Two recent reports have examined compensation payments during the foot and mouth crisis of 2001. This appendix sets out the key findings relevant to compensation payments from the following reports:
  - ▶ the Comptroller and Auditor General's report, *The 2001 Outbreak of Foot and Mouth Disease* (HC939 Session 2001-2002: 21 June 2002); and
  - ▶ Committee of Public Accounts' report *The 2001 outbreak of foot and mouth disease*, fifth report of session 2002-03, HC 487.



### The Comptroller and Auditor General's report, the 2001 Outbreak of Foot and Mouth Disease

- 2 Among his key findings, the Comptroller and Auditor General found that:

**'There were difficulties in administering the compensation and payment schemes to farmers.** Farmers received compensation for animals that were slaughtered for disease control purposes and payments for animals slaughtered under the Livestock Welfare (Disposal) Scheme. The sheer volume of cases put both schemes under enormous pressure and this led to costs being higher than they might otherwise have been in more normal circumstances.

**Problems with the slaughter compensation scheme increased the Department's costs.** The Department has paid over £1.1 billion in compensation to farmers for the slaughter of their animals. Professional valuers determined the compensation to be paid. Their valuations tended to rise as more and more animals were slaughtered because they expected the resulting shortage of stock to be reflected in increased prices when the markets reopened. The Department's contingency plans envisaged the appointment of senior valuers to monitor valuations but no steps were taken to appoint such staff until July 2001.

**The attempt to set standard rates for compensation contributed to a rise in prices.** Standard rates for slaughtered animals were introduced on 22 March 2001 because the valuation process was thought to be delaying the slaughter of animals on infected premises. The Department expected that at least 70 per cent of farmers would accept the standard payment rates rather than seek individual valuations. In fact, however, the standard rates were used by only 4 per cent of farmers. Most chose to appoint a valuer. The standard rates acted as a floor for valuations and contributed to a rise in the compensation paid. The Department recognised that standard rates were not having the desired effect and withdrew them on 30 July 2001.'

### Committee of Public Accounts' report, the 2001 outbreak of foot and mouth disease

- 3 The key conclusions of the Committee of Public Accounts referred to compensation payments as follows:

'Farmers received nearly £1,400 million in compensation and other payments for their slaughtered animals. The assessed values of animals rose threefold during the crisis, and with no functioning markets, the Department lacked a clear frame of reference to assess or influence the valuations against which compensation was paid. The Department allowed potential recipients of compensation to select and appoint the valuers. In future, systems of compensation to farmers for slaughtered animals need to give firmer control over the amounts paid. The Department needs better benchmarks for determining the rates paid for animals when markets are suspended; and it should not allow potential recipients of compensation to select and appoint the valuers.'



## APPENDIX 2

### Methodology used by the National Audit Office Wales

#### Collation and consolidation of information on compensation payments and market prices

##### Assembly expenditure

- 1 We collected information from the National Assembly's financial system on expenditure relating to bovine tuberculosis in the following areas, for the financial years 1998-99 to 2002-03:
  - ▶ compensation payments;
  - ▶ salvage revenue;
  - ▶ valuation costs; and
  - ▶ haulage costs.

##### Compensation Payments

- 2 We obtained financial ledger spreadsheets from the three SVS offices in Wales for the years 1998-2002. Our analysis focused on all valuations from 1 January 1999 (the start of the first full calendar year after compensation was based on full market value without a ceiling) to 11 October 2002.
- 3 The ledger spreadsheets contained information on compensation payments for each animal in each year. The format of the spreadsheets varied from year to year and between offices. Consequently we undertook a comprehensive exercise to consolidate and standardise the various spreadsheets into a single database containing one, uniform, entry for each slaughtered animal for which the Assembly paid compensation.
- 4 In addition, the spreadsheets omitted various essential items of information, such as the commercial or pedigree status of each animal. To ensure that we could carry out a meaningful analysis, we needed to collect such information, which was available only on the paper files. We focused our analysis on animals whose test date was in the calendar years 2000 and 2002 (2001 was an abnormal year because of the foot and mouth outbreak). Assisted by SVS staff, we collected information from the paper files to identify the pedigree or commercial status of each of the 5,081 animals whose test dates fell in those years.
- 5 We carried out an additional data collection exercise for pedigree animals, tested in 2002, from SVS's Carmarthen office. This exercise identified the breeding society with which the animal was registered and the date of the pedigree certificate. We focused on the Carmarthen office, as the majority of pedigree animals valued in 2002 came from that area, but also because this was the only office which routinely collected copies of the animal's pedigree certificate and kept this on file. In addition, for animals registered with Holstein UK (the majority of pedigree animals from Carmarthen) we collected information about the animal's status (ASR, BSR or full pedigree) and its classification (where the animal's owner had paid the society to classify the animal).
- 6 The spreadsheets were based on calendar years, rather than the financial years of the Assembly's financial system. This was complicated by the fact that in one of the SVS offices, all outbreaks relating to a particular farm, would rest in the ledger year of the first outbreak (for example, if a farm went down in 1999 and had further reactors in 2000 and 2001, those animals would appear on the 1999 ledger). As a result, we placed animals into calendar years using the year of their test date. When we described average valuations, for example in 2002, we were referring to animals which had been tested in 2002. Valuations usually take place within two weeks of the test result.

- 7 Because certain valuations were especially high, we carried out sensitivity analysis on valuations, examining the effect on the mean of discounting the top and bottom 5 per cent of valuations, and of using a median average rather than a mean average. The commercial average was very stable and was hardly changed by the removal of the top and bottom five per cent of valuations, nor by the use of a median instead of a mean. However, the pedigree average was more sensitive, reducing by 17 per cent after the removal of the top and bottom five per cent. The pedigree median was £2,180. Although lower than the mean of £2,641, this was still considerably higher than any of the average market prices for pedigree animals shown in Figure 10. Although we could not produce a median for the baseline pedigree market data, the sensitivity of the pedigree mean to the removal of the highest and lowest valuations does not alter the key fact that compensation valuations were considerably higher than underlying market prices.

### **Market prices for healthy animals**

- 8 We undertook a comprehensive exercise to determine the underlying market prices of healthy animals, both commercial and pedigree. Because of the difficulty of producing a single 'average' compensation payment, we collected information from a variety of sources to provide a number of indicators with a view to identifying a general pattern.
- 9 We then compared this range of indicators of underlying market prices with average compensation payments. The analysis was undertaken at a high level, considering all animals valued, rather than attempting to examine valuation of individual animals. The assumptions and methods used are described fully in Appendix 3.

### **Validation of our findings by a consultant valuer**

- 10 We employed a consultant agricultural valuer to advise us about levels of compensation and underlying market prices. The valuer was based outside Wales, and was a fellow of the Central Association of Agricultural Valuers and Member of the Royal Institution of Chartered Surveyors. Our consultant had over thirty years' experience in livestock valuation. Our consultant provided advice on:
  - ▶ levels of compensation payments;
  - ▶ underlying market prices for commercial and pedigree animals;
  - ▶ the process of valuing animals with bovine tuberculosis; and
  - ▶ our draft report.

### **Document review**

- 11 We carried out a document review, based on an electronic trawl of a range of sources of information. This included recent press coverage, Assembly questions and committee hearings, academic research, coverage by Parliament and other governments and devolved administrations.

### **Qualitative research on the impact of an outbreak of tuberculosis on farmers**

- 12 We used a variety of qualitative methods to gain a better understanding of the impact of an outbreak of bovine tuberculosis on farmers and their local communities. We conducted:
  - ▶ a focus group of farmers;
  - ▶ case studies of the experiences of three individual farms; and
  - ▶ semi-structured interviews.

## Farmer focus group

- 13 We held a focus group of ten farmers from west Wales, whose farms had been affected by bovine tuberculosis. We are grateful to the National Farmers' Union Cymru for arranging the membership of the focus group, which was not exclusively composed of NFU members. The focus group considered the following four topics:
- ▶ the effect of a tuberculosis outbreak on a farm;
  - ▶ arrangements for the valuation of animals and payment of compensation;
  - ▶ insurance against tuberculosis outbreaks; and
  - ▶ preventative measures to reduce the risks of tuberculosis.

## Case studies of individual farms

- 14 We followed up the focus group by visiting three farms affected by tuberculosis to obtain detailed information relating to the specific farm. This formed the basis of the case studies which appeared in Part 2 of the report. We are extremely grateful to the farmers for their participation.

## Semi-structured interviews

- 15 We carried out interviews with senior officials of the National Farmers' Union Cymru, Farmers' Union of Wales and Country and Land Business Association about bovine tuberculosis and arrangements for compensating farmers. We interviewed valuers involved in tuberculosis valuations in each of the three SVS areas in Wales. We also spoke to the Chair of the Welsh Livestock Auctioneers' Association, and Chair of the livestock auctioneers sub-committee of the Central Association of Agricultural Valuers.

## Interviews of key officials in the Assembly, SVS and Defra

- 16 We carried out interviews of key officials in the Assembly's Animal Health division. We also visited each SVS office in Wales, interviewing:
- ▶ all three Divisional Veterinary Managers;
  - ▶ lead TB Veterinary Officers;
  - ▶ Veterinary Officers carrying out valuations;
  - ▶ Animal Health Officers accompanying valuers to valuations; and
  - ▶ staff involved in the administration of valuations and compensation payments.

We also interviewed key Defra officials within its Animal Health Division, tuberculosis team, Internal Audit function and its veterinary adviser on tuberculosis.

## Collection of information about comparator countries and regions

- 17 We obtained information about arrangements for tuberculosis compensation in other countries and regions. The main focus was on Northern Ireland and Devon, as both share the same currency as Wales, and operate under broadly similar arrangements. We visited both the Department of Agriculture and Rural Development in Northern Ireland and SVS in Devon, collecting data on compensation payments, and interviewing key officials. We also collected information remotely about compensation arrangements in Italy, the Republic of Ireland and New Zealand, as well as information on the different compensation arrangements in place for BSE and brucellosis.

## Other relevant organisations

- 18 In order to obtain further information about pedigree animals, particularly Holstein Friesians, we visited the headquarters of Holstein UK and interviewed the Chief Executive and Office Manager. Holstein UK provided additional information on a sample of one hundred animals whose pedigree certificates post-dated the TB test. Holstein UK also provided further information regarding levels of registration in Wales.
- 19 It also became clear that insurance was a key issue, not only for farmers facing an outbreak of bovine tuberculosis, but also to learn how the private sector controls payments on tuberculosis and general livestock policies. We interviewed senior livestock underwriters at two of the major providers of livestock insurance in Wales.

## APPENDIX 3

### Our methodology for calculating underlying market prices

- 1 We focused our analysis of underlying market prices on the calendar years 2000 and 2002. Our analysis was constrained by the available information, which was imperfect. This section describes how we collected information about underlying market prices for commercial and pedigree animals.

#### Commercial animals

- 2 Our first source of information on commercial cattle prices was information on actual commercial cattle sales maintained by Defra's Economics and Statistics Division and the Meat and Livestock Commission. For 2000, this information was available for England and Wales combined, but not separately for Wales. The 2000 data was split between dairy and beef animals, covering all commercial markets in England and Wales. Dairy and beef animals were classified as either first or second quality. The data was available only in terms of monthly average prices, so that we could only produce an average of averages, rather than a true average based on the total price of all sales divided by the number of animals sold. We produced separate dairy and beef prices, even though our information on tuberculosis valuations did not allow us to split animals into commercial beef and dairy. The use of separate beef and dairy prices was useful as a means of expanding the range of indicators of commercial market prices.

#### Beef cattle

The Defra information available for beef animals was limited, as it related only to store animals aged up to two years old. Consequently the average prices, of £302 for 2000 and £412 for 2002, were slightly lower than an average for breeding animals. In the absence of such information, our consultant provided us with an estimate that the average beef suckler cow weaned and in calf would have made around £650 at market. Both values are considerably lower than those of animals valued for the purposes of compensation for bovine tuberculosis.

- 3 Between 2000 and 2002, Defra changed its approach to recording market prices. In 2002 prices were available for England and Wales combined, as well as separately for Wales. The data contained the minimum and maximum prices paid, as well as the number of each type of animal sold. For dairy animals, there were no Welsh sales reported after August 2002. For the months September to December 2002, we used the average prices for dairy cattle reported in Defra's figures for England and Wales. We combined all of the categories of dairy animals to produce an overall average for dairy animals.
- 4 Farmers we met indicated that commercial market sales are not the most appropriate comparator for compensation valuations, as farmers rarely sell their best animals. Indeed, for dairy farmers, it is important to keep the best animals for milking and breeding. Consequently farmers regard dispersal sales as a more appropriate comparator for animals slaughtered because of tuberculosis. The box after paragraph 3.6 provides a full explanation of dispersal sales. We obtained information about dispersal sales by carrying out an electronic search of the two major farming journals and analysing reports on 29 sales in 2000 (3,232 animals), and 40 sales (5,780 animals) in 2002.
- 5 Our analysis relied upon the report provided by the farming journals. On occasion the report made clear that the sale involved pedigree animals alone. Only where this was absolutely clear did we adjust the average price for commercial animals by removing animals from sales where it was clear that all animals dispersed at the sale were pedigrees. In this way we produced an average figure for commercial animals sold at dispersal sales. Given that other sales clearly involved a mixture of pedigree and commercial animals, the presence of the pedigree animals might have inflated our dispersal sale commercial average. However, this is likely to have been offset by the fact that dispersal sales may also include a proportion of relatively poor animals which are no longer productive; such animals would not normally be sold through markets.

## Pedigree animals

- 6 Our analysis of pedigree market sale information also concentrated on the calendar years 2000 and 2002. We collected considerable additional information about the pedigree animals valued for the purposes of tuberculosis compensation in the area covered by SVS Carmarthen in 2002, such as their pedigree status (ASR, BSR or full pedigree) and their classification if they had been classified by the breeding society.
- 7 We had three main sources of information on pedigree market sales:
- ▶ we trawled the websites of various pedigree breeds and collated sales report information, producing an overall average for a number of pedigree breeds for 2000 and 2002;
  - ▶ we carried out an electronic trawl of the two major farming journals in both 2000 and 2002 to collect information on sales of pedigree Holstein Friesian animals (the major pedigree breed in Wales); and
  - ▶ Holstein UK provided a small number of sales reports for complete pedigree herd dispersal sales, which they told us represented the upper end of the market.

The overall average for all breeds was calculated from the following data:

### All Breed Pedigree Average 2002

Breed	Number of animals	Total spent	Average
Holstein Friesian	4,542	£5,543,603	£1,220
Limousin	976	£2,294,395	£2,351
Welsh Black	283	£211,255	£746
Charolais	1,321	£3,630,390	£2,748
<b>TOTAL</b>	<b>7,122</b>	<b>£11,679,643</b>	<b>£1,640</b>

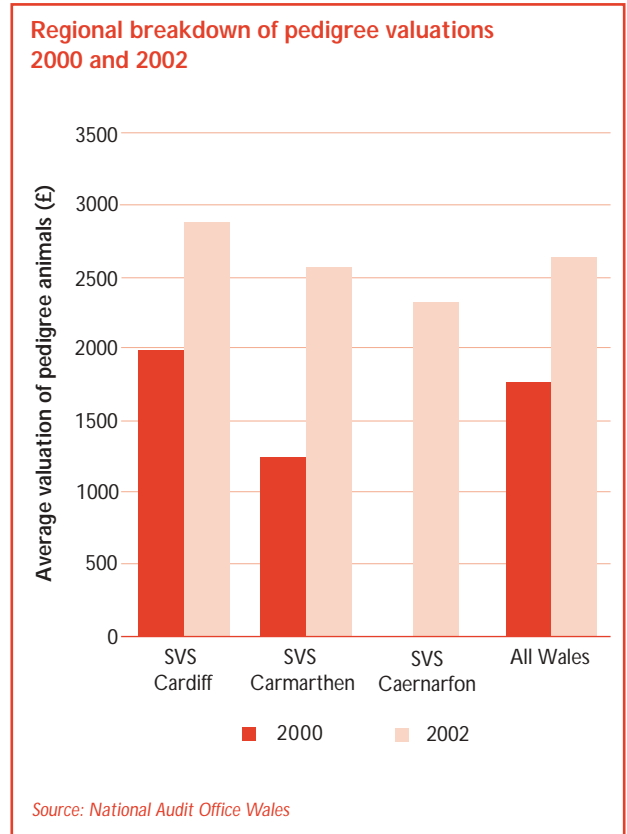
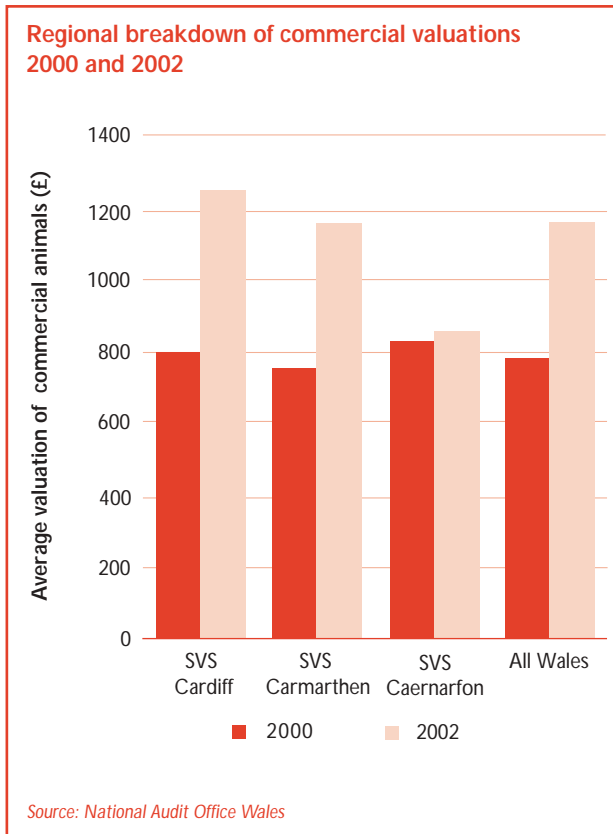
### All Breed Pedigree Average 2000

Breed	Number	Total	Average
Holstein Friesian	3,759	£3,734,691	£994
Limousin	1,821	£3,019,613	£1,658
Welsh Black	249	£145,987	£586
Charolais	No information	No information	Not applicable
<b>TOTAL</b>	<b>5,829</b>	<b>£6,900,291</b>	<b>£1,184</b>

- 8 Our information on all Holstein Friesian sales is summarised in the table above. The figures for Holstein Friesian include those animals sold at the top herd dispersal sales of the year, provided by Holstein UK (see below). This was to ensure that the overall average was not reduced by omitting the sale prices for the best animals.
- 9 We used the information on the sales of animals sold at complete Holstein Friesian pedigree herd dispersal sales to show prices at the upper end of the market for Holstein Friesian animals. Holstein UK kindly provided information from sales which they indicated reflected the upper end of the pedigree market. For 2002, they provided information about nine sales in which 1,331 animals were sold at an average price of £1,654. For 2000, Holstein UK provided information about seven sales in which 1,031 animals were sold at an average price of £1,159.
- 10 Holstein UK runs one sale per year, which incorporates the very best animals of the breed. In 2002, the society's specialist sale involved the sale of 75 animals at an average of £3,534. However, of the other 37 sales we examined, none had an average higher than the average for pedigree animals slaughtered because of bovine tuberculosis, and only six averaged more than £2,000.

# APPENDIX 4

## Regional comparison of 2000 and 2002 compensation levels





## APPENDIX 5

### Comparison of 2000 and 2002 compensation levels and underlying market prices for commercial animals

Commercial market price information	Average price 2000	Average price 2002	% change from 2000 data
Defra Welsh market sales	No separate figure available for Wales - England and Wales averages £532 dairy and £302 beef store.	£600 dairy, £412 beef store Wales only  £539 dairy, £337 beef store, England and Wales combined	1% dairy England and Wales  12% beef store England and Wales
Analysis of dispersal sale reports reported in the farming press	£603	£743	23%
Brucellosis maximum compensation payable	£433	£560	29%
BSE maximum compensation payable for confirmed BSE	£424	£512	21%

TB Compensation for commercial animals	Average price 2000	Number of animals 2000	Average price 2002	Number of animals 2002	% difference between 2000 and 2002 animals
Caernarfon	£830	9	£854	295	3%
Carmarthen	£766	671	£1,168	1,404	52%
Cardiff	£797	431	£1,260	888	58%
All Wales	£778	1,111	£1,164	2,587	50%

## APPENDIX 6

### Comparison of 2000 and 2002 compensation levels and underlying market prices for pedigree animals

Pedigree Market price information	Average price 2000	Average price 2002	% change from 2000 data
Holstein Sales Reports (farming press and Holstein UK)	£994	£1,220	23%
Holstein sales ('best' animals sold in complete Holstein Friesian dispersal sales - information provided by Holstein UK)	£1,159	£1,654	43%
Average price of combined data for four breeds	£1,184	£1,640	39%

TB Compensation for pedigree animals	Average valuation 2000	Number of animals 2000	Average valuation 2002	Number of animals 2002	% change from 2000 data
Caernarfon (all breeds)	No pedigrees in 2000	0	£2,323	39	NA
Cardiff (all breeds)	£1,992	147	£2,873	317	44%
Carmarthen (all breeds)	£1,256	64	£2,567	816	104%
All Wales	£1,769	211	£2,641	1172	49%

# APPENDIX 7

## Glossary

Arbitration	When a farmer and valuer or valuers are unable to agree a value for an animal to be slaughtered, the case can be referred to arbitration. This is a means of obtaining an independent valuation by a valuer nominated by the Royal Institution of Chartered Surveyors. Their valuation is binding.
ASR	ASR is section A of Holstein UK's Supplementary Register. This is the first of a three generation process to achieve full pedigree status. ASR covers animals which are up to 50 per cent pedigree.
Bovine tuberculosis	Bovine tuberculosis is an infectious and contagious disease of cattle caused by the bacterium <i>Mycobacterium bovis</i> ( <i>M.bovis</i> ). It is characterised by the development of tubercles in any organ of the body.
Brucellosis	Brucellosis is an infectious disease caused by the bacteria of the genus <i>Brucella</i> . These bacteria are primarily passed among animals, and they cause disease in many different vertebrates. Humans become infected by coming in contact with animals or animal products that are contaminated with these bacteria. In humans brucellosis can cause a range of symptoms that are similar to influenza and may include fever, sweats, headaches, back pains, and physical weakness.
Bovine spongiform encephalopathy (BSE)	BSE is a relatively new disease, which was first recognised and defined in the United Kingdom in November 1986. It is a neurological disease involving pronounced changes in mental state, abnormalities of posture, movement and sensation. The clinical disease usually lasts for several weeks and it is characteristically progressive and fatal.
BSR	BSR is section B of Holstein UK's Supplementary Register. This is the second of a three generation process to achieve full pedigree status. BSR covers animals which are up to 75 per cent pedigree.
Central Association of Agricultural Valuers	A national specialist professional association representing over 2,000 agricultural and rural valuers.
Commercial animal	An animal is deemed to be commercial if it is not registered with a breeding society as having pedigree status.
Consequential loss	Losses suffered by farmers because of an outbreak of bovine tuberculosis. Such losses are in addition to the capital value of an animal, such as loss of income, and additional costs arising from the outbreak, such as labour, feed and veterinary fees.
Dairy cattle	Animals kept or bred for the primary purpose of producing milk and associated dairy produce.
Defra	Department for the Environment, Food and Rural Affairs.
Direct contact	An animal that has been in close contact with a confirmed reactor and may have been exposed to bovine tuberculosis.
Dispersal sale	The sale of all assets of a farm, often when a farmer dies, retires or moves away from the farming industry. One of the main assets sold at a dispersal sale is livestock.

Dual valuation	Farmers have the right to request valuation by a private valuer of their choice. In addition SVS may appoint a valuer to represent them. The two valuers agree a valuation for each animal.
Exotic disease	An exotic disease is classified as List A by the Office International des Epizooties (World Organisation for Animal Health). Such diseases have the potential for rapid and extensive spread and major consequences for public health, international animal and animal product trade and socio-economic factors. Examples of such diseases are foot and mouth disease and classical swine fever.
Gamma Interferon Trial	A two year trial allowing farmers in certain areas (including Wales) to volunteer to undergo the Gamma Interferon blood test as a supplement to the skin test. The pilot is designed to establish whether this supplementary test clears the disease more quickly than the skin test alone.
Holstein UK	The breeding society for pedigree Holstein and Friesian cattle in the UK.
Inconclusive reactor	An animal which reacts to the skin test but not sufficiently to be regarded as a positive reaction. If an animal proves inconclusive on three consecutive tests, it is deemed a reactor.
Krebs trials	A trial set up in 1998 following a recommendation by Professor Sir John Krebs to carry out randomised badger culling trials, to establish whether there is a scientific link between badgers and the spread of bovine tuberculosis. The review will also look more widely at disease control measures in the EU and risks to human health.
Market value	The value which the animal would have achieved on the open market on the day of valuation if it had been not been infected with bovine tuberculosis.
Movement restrictions	Restrictions on movements of animals onto and off farms because of the incidence of disease. Movement restrictions aim to prevent the further spread of disease through cattle movements.
Notifiable disease	A notifiable disease is a disease named in section 88 of the Animal Health Act 1981 or an Order made under that Act. Under section 15(1) of the Act anyone in possession of an animal affected, or suspected of having one of these diseases, must notify the authorities as soon as possible, usually the local Divisional Veterinary Manager.
Pedigree animal	Animals registered as pedigree with the appropriate breeding society. The award of pedigree status operates under various European Union directives.
Reactor	An animal which reacts to the skin test, indicating the existence of bovine tuberculosis.
Royal Institution of Chartered Surveyors (RICS)	A professional association of chartered surveyors, including agricultural valuers.
Salvage	Revenue received by the Assembly from slaughterhouses for animals slaughtered as a result of bovine tuberculosis, whose meat enters the food chain.
Sensitivity analysis	An exercise analysing the sensitivity of one variable to changes in another variable. For example we examined the sensitivity of average cattle valuations to the removal of the highest and lowest valuations.

Single valuation	A situation in which one valuer attends the farm to provide valuations for cattle affected by bovine tuberculosis. The valuer is nominated by the farmer.
Skin test	A test involving an injection of tuberculin into cattle. If a lump forms as a result, this 'reaction' may suggest the existence of bovine tuberculosis.
Standard card	A set range of valuations made available to farmers midway through the foot and mouth outbreak. Such valuations were available in place of individual valuation of animals, and were intended to accelerate the slaughter of affected animals.
State Veterinary Service	An agency of the Department for the Environment, Food and Rural Affairs (DEFRA).
Veterinary officer valuation	Veterinary officers may value a small number of animals with the farmer's consent without the need for a professional valuer to attend. Animals valued by veterinary officers are usually commercial.
VETNET	The information system used by SVS to monitor tuberculosis testing and disease incidence.
Welsh Livestock Auctioneers' Association	A professional body representing livestock auctioneers in Wales.