

Dealing with uncertainty to minimise adverse consequences

- lessons from the Brazilian case of atypical Bovine Spongiform Encephalopathy

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Outline

- Examples of adverse consequences due to imperfect handling of uncertainties in a major event
- Classical and atypical BSE
- The Brazilian BSE case
- Concerns over the handling of the Brazilian BSE case
- Alternative approaches in dealing with uncertainties associated with the Brazilian BSE case
- Conclusions

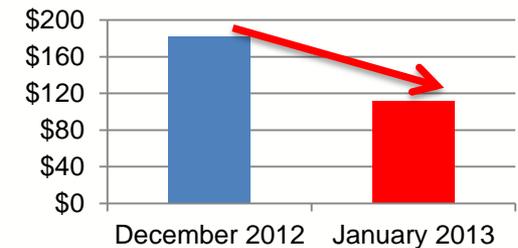
Adverse consequences due to imperfect handling of uncertainties in a major event

Fosters acquisition of Penfolds wine business in 2005 - uncertainty around the global wine market



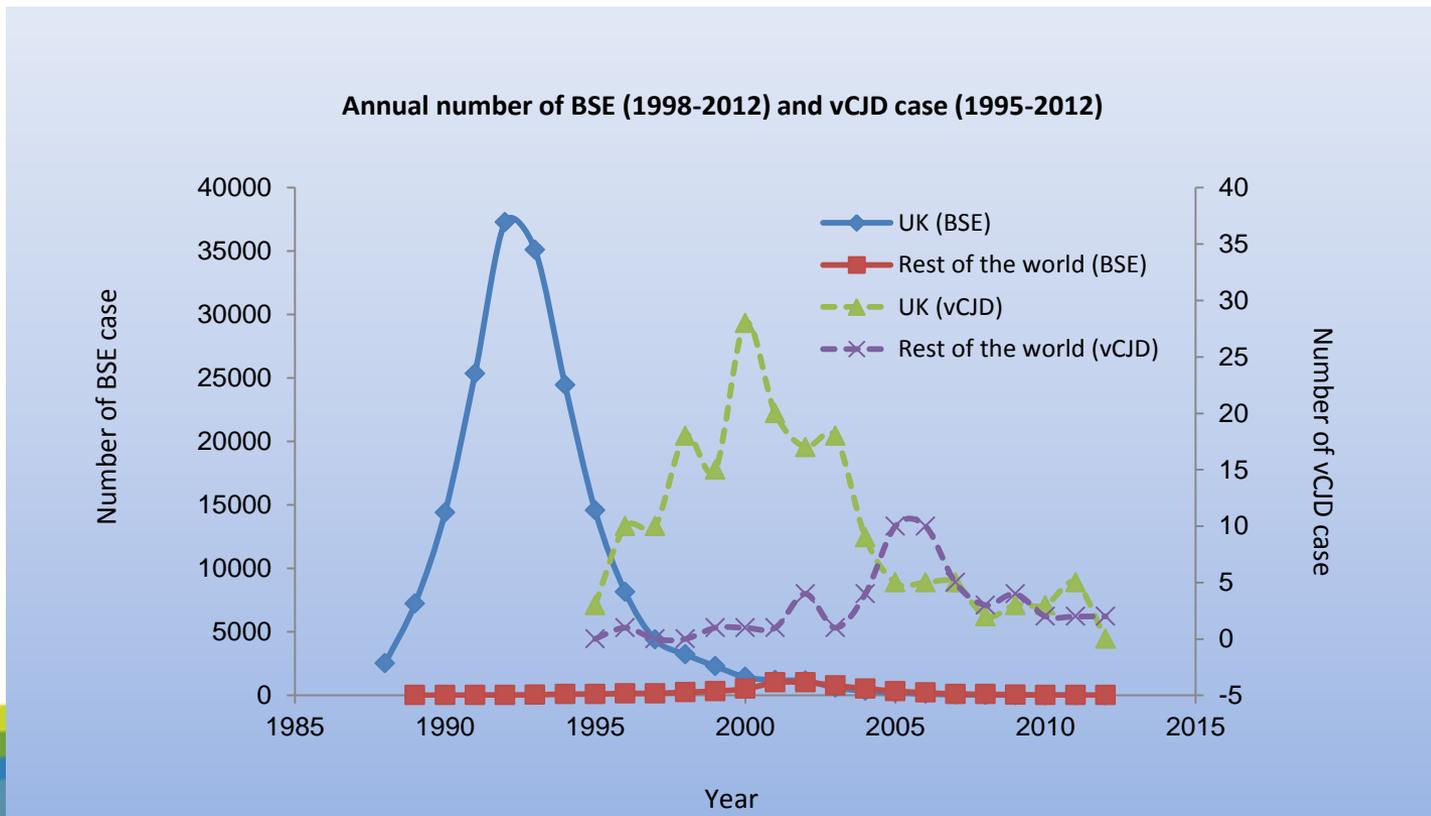
VW Australia recall of 25,928 vehicles in 2013 – uncertainty around consumer perceptions of the DSG problem

The Brazilian BSE case in 2012 – uncertainty around the case investigation



Classical BSE

The classical BSE was responsible for the death of 227 people, cost the UK government and industry an estimated £3.7 billion, and destroyed 3.3 million cattle in UK



Atypical BSE

Atypical BSE is a spontaneous and rare event of older cattle

- discovered in 2003
- 79 cases identified
- H-type or L-type
- found in 16 countries
- unclear about its origin and potential impact on human safety

Country	H-type	L-type	Unknown type?	Total
Austria	1	2		3
Brazil	1 (likely)			1
Canada	1	1		2
Denmark		1		1
France	13	13		26
Germany	1	1		2
Ireland	3			3
Italy		5		5
Japan		2		2
Netherlands	1	3		4
Poland	2	9		11
Spain	1 to 3	0 to 2		3
Sweden	1			1
Switzerland	2		2	4
UK	4	4		8
USA	2	1		3
Total	33 to 35	42 to 44	2	79

Classical BSE vs Atypical BSE

Classical BSE	Atypical BSE (H and L type)
Due to feeding cattle MBM contaminated by BSE prion	Not associated with MBM
Occurred in clusters consistent with animal feeding practices	Occurs as spontaneous, rare and unrelated cases
Incubation period 30 months to 8 years; animal dies within months of clinical signs	Unknown incubation period; unknown acceleration toward the end of life
Occurred in high numbers mostly cattle 4 to 7 years old related to specific feeding risk factors	Cattle of old age (>8 YO); countries with extensive BSE surveillance system
Prevented through prohibition of feeding cattle MBM	Unknown prevention measures
High impact on human health through vCJD cases in humans	Unknown impact on food safety and human health

Brazilian BSE case - diagnosis



- Detected: 18 Dec 2010
- Reported to the OIE: 7 Dec 2012
- Case animal was beef cow, aged 13 from Parana State
 - grass fed only
 - died within 24 hours of notification of symptoms
- Diagnosed negative for BSE by histopathology 11 April 2011
- Positive by immunohistochemistry 15 June 2012
- Positive by OIE international reference lab 6 Dec 2012
 - non-conclusive diagnosis of atypical BSE 14 Dec 2012

Brazilian BSE case - handling

- Immediate Notification to the OIE - 7 Dec 2012
- Follow-up report No. 1 to the OIE - 18 Dec 2012
- Follow-up report No. 2 to the OIE on 6 Feb 2013
- Communication to the OIE's Scientific Commission for Animal Diseases - 4-8 February 2013.
- Communication to the WTO's Committee on Sanitary and Phytosanitary Measures - 12 March 2013
- Brazilian delegations visited key beef export markets to allay international trade concerns following the Immediate Notification to the OIE

Concerns over the handling of the case

1. Uncertainty around long reporting delays
 - between detection and report of the BSE case to the OIE (24 months)
 - between negative and positive test reports (14 months)
 - between Brazil's OIE reference laboratory's positive diagnosis and the OIE International reference laboratory's positive diagnosis (6 months)
2. Uncertainty around confirmatory testing
 - the poor quality and indeterminate fixation history of sample compromises interpretation, but note that sample appears to have some characteristics of H-type rather than L or C-type BSE (OIE UK Reference laboratory)
3. Uncertainty around public statements
 - it *is highly probable that this is an atypical BSE case*
 - *atypical BSE should have no impact on animal or public health*

Alternative approaches in dealing with the Brazilian BSE case

The following approaches will assist the case investigation and minimise the extent of the uncertainties associated with the case investigation and communication:

- better handling of case investigation and the BSE suspect sample to minimise time delays
- standard operational procedures established, exercised and published to handle a BSE event
- clearer and timely communication
- Actively working towards an earlier international declaration on a low impact of atypical BSE on animal and human health

Conclusions

- 1) Uncertainty should be reduced to the lowest level possible when permitted by resource and time
- 2) Exercise precaution in dealing with matters that are likely to impact on human health and safety
- 3) Uncertainty on matters that are likely to weaken public trust and acceptability must be clearly and transparently communicated to the public
- 4) The higher the potential adverse consequence a risk may lead to, the lower extent of the uncertainty associated with the risk should be aimed for