COST SHARING IN COMPENSATION SCHEMES FOR LIVESTOCK EPIDEMICS

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An overview of recent studies on cost-sharing compensation schemes for livestock epidemics conducted for the European Commission, OIE and OECD. Examples are taken from three existing schemes: the Emergency Animal Disease Response Agreement in Australia, the Tierseuchenkassen in Germany and the Animal Health Fund in the Netherlands. After introducing the key characteristics of cost-sharing schemes, we will examine whether they provide the right incentives, and whether they work in practice. We conclude by listing key principles for cost-sharing schemes, accounting for proper incentives and cost-benefit structures.

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Key characteristics and objectives of cost-sharing schemes

Cost-sharing schemes can vary across countries and regions, though they share some basic characteristics. This short paper is based on several studies by Civic Consulting for the OECD, the European Commission and the OIE on this topic. They are listed at the end of this paper.

Cost-sharing schemes are here defined as public-private schemes, which means that costs (and to some degree also responsibilities) related to livestock epidemics are shared between the government and affected sectors. They are also relatively rare, from a global perspective. Cost-sharing schemes exist only in a small number of countries, and are the exception even among EU countries.

These schemes also differ in important areas. Institutional arrangements, for instance, can vary depending on national or regional circumstances, such as institutional structures and traditions. In some cases, schemes are managed by a single ministry, at the state level (in federal countries such as Germany), or at the national level. Although all cost-sharing schemes involve stakeholders, the nature of their involvement can differ. Some involve private insurers, for example, though such schemes are very rare and not discussed in this paper. Other important differences include the degree of cost sharing, and the types of costs and losses covered under each cost-sharing scheme.

The objectives of cost-sharing schemes differ for farmers and governments. For farmers, these schemes can make the risk of outbreaks more manageable, because costs are distributed over a longer period. They also increase their involvement in prevention and outbreak management, and can generate incentives for risk reduction. For governments, cost-sharing schemes offer lower risks for public purses. Compensation can be very expensive — especially in the case of large or prolonged outbreaks — and can therefore put a strain on public budgets. Cost-sharing schemes also aim to improve the cooperation of farmers with disease control and eradication measures, and typically target high-impact diseases that have significant effects on public health or the economy. It is important to note that cost-sharing schemes generally do not cover price risks (e.g. if the market price of meat falls considerably during an outbreak) or losses in other sectors (e.g. losses incurred in transport or feed sectors).

From 1997 to 2010, the European Union spent more than EUR 1.1 billion from the so-called “veterinary fund,” largely for the co-financing of costs and losses related to foot-and-mouth disease (FMD), classical swine fever (CSF) and avian influenza. But this sum only represents direct costs; overall losses (including indirect costs) were much higher. Cost-sharing schemes can reduce the risk and costs of outbreaks by creating incentives for early reporting and increased biosecurity. In Australia, for example, farmers have 24 hours to provide notice of an outbreak on their premises. There are similar time limits in other schemes, though some require farmers to provide notice immediately or as soon as possible, rather than within a specific time frame. If farmers do not comply, they face penalties. Some schemes also reduce compensation amounts for dead or visibly sick animals, if a herd has to be culled. In the Netherlands, for instance, sick animals are compensated at 50% of a healthy animal’s value, while animals that die prior to notification to the veterinary authorities receive zero compensation.

Australia’s scheme requires all relevant sectors to commit to biosecurity plans, while hygiene and disease prevention standards are included in schemes in Germany and the Netherlands. In some German states, a herd’s disease-free status is taken into consideration when determining the levies that a livestock holder must pay. In the Netherlands, farmers face penalties if their negligence causes an outbreak, though this is very difficult to prove, in practice.
Other incentives are less common among cost-sharing schemes. They rarely involve contributions based on individual risk levels, because such differentiation is not very popular among farmers. As we have suggested in previous works, bonuses for prevention measures may offer the most acceptable type of differentiation, including for example for “all-in-all-out” management practices for restocking. Disease-free bonuses are another alternative, offering lower levies to farms that have not had an outbreak for several years. Another possibility is to differentiate levies so that contributions are higher in high-risk regions. While high-density areas with large numbers of livestock in a specific region do not necessarily have a higher risk of disease outbreaks (due to high bio-security standards), it is clear that in the case of an outbreak, losses will be greater and outbreaks may be more difficult to contain. It is therefore legitimate to demand higher contributions from farmers in these areas, though this is rarely done.

Higher ex post compensation for implementing farm-level biosecurity measures is another incentive that is rarely implemented. In this case, the compensation a farmer receives would be contingent upon the biosecurity measures he or she implements. In developing countries, community-based compensation could be used to address the issue of backyard livestock holders. Under these schemes, compensation would not be provided to the individual, but to the community, thereby increasing social pressure for risk-reducing behaviour. Thus far, however, there has been very little experience with this approach.

Compensation schemes (which include both pure compensations schemes, where the government pays the full compensation amount, and cost-sharing schemes) can also create adverse incentives. Overcompensation, for instance, can lead to moral hazard and, in some cases, compensation schemes may inadvertently reward those who cause losses. During the FMD outbreak in 2001, for example, livestock farmers who broke movement restrictions and hid their outbreaks faced fines and were summoned to court, but were still eligible for full compensation. This exposed a serious problem in the legislative framework, which has since been changed, though it underscores the need to be aware of such loopholes when designing indemnification rules. Also, compensation schemes may transfer funds from low-risk to high-risk areas, as the EU veterinary fund did between 1997 to 2010, when 77% of its funds went to two countries (the United Kingdom and the Netherlands) with very high livestock densities. A separate problem is that in some cases farmers with infected or culled herds may be better off (due to compensation payments) than those with healthy herds under veterinary restrictions (because they typically do not receive compensation, but cannot bring their livestock to market). This is rather problematic and may create adverse incentives, especially during outbreaks that extend for long periods.

There are several ways to mitigate the adverse incentives of compensation schemes.

- Livestock identification and databases remain critical, though they are not often present in developing country contexts.
- Penalties for late notification or low levels of biosecurity are currently in place across many cost-sharing schemes, and are widely accepted.
- Rapid intervention, ex ante agreements with companies involved in veterinary measures (such as destruction of carcasses, disinfection), less culling and optimised restrictions can also be used to reduce losses — which, in turn, reduce adverse incentives.
- Bio-economic modelling, meanwhile, can be used to predict how a disease will spread and which containment strategy is associated with the lowest costs, thereby allowing decision makers to designate appropriate veterinary restriction zones. If the zones are smaller, the problem of adverse incentives will diminish, as less farmers are affected.
Compensation of culled animals at current market values is a very complex issue, but one that must be addressed in order to mitigate adverse incentives. Market values for meat tend to fall during a prolonged animal health crisis. Therefore, compensation values for a variety of animal types have to be constantly revised, as higher compensation values than market values may lead to a situation where a farmer with an infected herd, which is culled and compensated, may be in a better situation than a farmer with a healthy herd.

Compensation of business interruption losses of farmers in veterinary restriction zones is another complex issue. In this case, we recommend compensating the value of culled animals at the same rate as business interruption losses in restriction zones, to avoid the above described adverse incentives.

Do cost-sharing schemes work?

In practice, cost-sharing schemes make risks more manageable for farmers and the public. They can be fine-tuned according to disease categories, as is the case in Australia, and have led farmers to take on greater responsibility. Interestingly, cost-sharing schemes have a very high level of acceptance in countries where they are currently in place. Such schemes have been in place in Germany for 100 years, and there has been no desire to abolish or diminish them. The Netherlands introduced its cost-sharing scheme after the CSF outbreak in 1997, and acceptance there remains quite high. However, there is extremely high resistance in countries which do not currently have a cost-sharing scheme (but already compensate farmers in case of outbreaks) and where the government plans to implement a cost-sharing scheme, and this is important to consider.

It should also be noted that cost-sharing schemes currently provide only partial incentives for prevention. Adjusting contribution levels to individual risk, for example, is not a widely applied practice. We must acknowledge, however, that there is very little evidence on how these incentives work in practice. When we discuss this issue with farmers or their representatives, they often react (understandably) negatively to the suggestion that a herd owner might intentionally infect his or her livestock if adverse incentives are present. Of course, we do not mean to imply this in any way to be a typical reaction, as most people would likely not do this, for moral and other reasons. However, as any insurance scheme and the literature regarding moral hazard indicate, some individuals may react to adverse incentives, and in the case of livestock epidemics irresponsible behaviour of a few may have dramatic consequences. A cost-sharing scheme’s incentive structure should therefore be compatible with the aim of such a scheme, which is to reduce the overall costs of disease outbreaks by reducing risks and creating incentive for farmers to engage in risk-reduction.

Key principles for cost sharing

There are basic principles to make cost-sharing schemes work. These principles are certainly not exhaustive, and others may draw different conclusions from the experiences of existing schemes and the literature available, but in our view, they best summarise what manageable and pragmatic cost-sharing schemes should encompass.

In short, cost-sharing schemes should be mandatory (as most currently are), rather than voluntary. All operators who contribute directly to the overall risk of disease should pay into the schemes, in order to mitigate the threats posed by an outbreak. It is important to note that in our view there is no reason to require downstream industries (such as food retailers) to pay into these schemes, because doing so would introduce greater complexity, and it is difficult to argue which industries should or should not contribute, if both do not contribute to the risk of disease outbreaks. As a second principle we would suggest that all those who pay levies
should also receive the benefits from a given cost-sharing scheme, if they are directly affected by an outbreak, thereby laying the groundwork for a pragmatic and manageable system.

Cost-sharing schemes should cover direct costs and losses related to outbreaks of relevant livestock diseases. Schemes should adjust levies according to individual risk levels, with the most workable system probably consisting of offering bonuses and maluses, depending e.g. on the level of bio-security measures implemented at a farm. As is current practice, cost-sharing schemes should not cover price risks. However, we recommend that they do cover business interruption losses in restriction zones, as well, to be incentive compatible. As mentioned before, the problem arises from the fact that if a culling policy is implemented, farmers under movement restriction may be worse off than those whose herds have been culled, thereby creating adverse incentives. The same is not true in situations where vaccination policies are put into place instead of widespread culling, and this is an area that deserves more detailed examination. If vaccination policies gain importance, the issue of adverse incentives created in restriction zone may lose relevance. In addition, overall costs of an outbreak are lower if less animals are culled (not considering animal welfare benefits), which also would reduce the potential burden of compensation for farmers and governments (and in consequence, for tax payers).

For the same reason it appears sensible that prevention measures are incorporated in cost-sharing schemes, with targeted approaches to reduce risk (e.g. by financing specific disease prevention measures, such as vaccination programs). Finally, stakeholder involvement remains essential to all cost-sharing schemes. As we have seen with schemes currently in place, stakeholder involvement creates a sense of ownership over animal health, while allowing farmers and governments to share the burden of disease management. This can lead to greater awareness and beneficial changes in behaviour.

References


