EXECUTIVE SUMMARY

Civic Consulting of the Food Chain Evaluation Consortium has conducted a pre-feasibility study on cost-sharing schemes for epidemic livestock diseases in the framework of the evaluation of the Community Animal Health Policy. The study evaluates the current Community financing of epidemic livestock diseases, scrutinises selected existing cost-sharing schemes in Member States and analyses to which extent harmonised cost-sharing schemes could be a viable option to prevent major financial risks for Member States' and the Community budget. The study is based on a survey of insurers in EU MS, interviews, case-studies in three MS (Netherlands, Germany, Spain) and an economic analysis of options for a harmonised EU framework for cost-sharing schemes. Preliminary results were presented in a working paper at a stakeholder workshop on 17 March 2006 in Brussels and the comments received were taken into account in the final version of the study.

During the evaluation period (1995-2004) the system of EU co-financing of losses caused by major disease outbreaks was a mixture of ad-hoc compensation through exceptional market support measures and loss-based compensation for veterinary emergency measures as defined in Council Decision 90/424/EEC (the "Veterinary Fund"[1]). The analysis indicates that financial ad-hoc measures in case of an outbreak do not provide incentives for prevention to the parties involved and do not promote proper disease risk management planning. The system of expenditure in the veterinary field defined by Council Decision 90/424/EEC represents an improvement over ad-hoc measures, because compensation rules are pre-defined. The system has been further developed by Regulation 349/2005, which creates clearer rules for compensation and reduces "grey areas" that existed during the evaluation period. However, the current framework is still characterised by some deficiencies:

- Community co-financing is loss-dependent, which may distort competition in favour of high-risk areas. Roughly 85% of the 989 million € spent from the "Veterinary Fund" between 1997-2005 were used for co-financing emergency measures in two MS. Although Community co-financing may provide incentives for effective and rapid control measures, it does not seem to provide incentives for prevention, especially with respect to prevention measures that are above the minimum standards required by legislation;
- Disease outbreak losses are compensated only partially, focusing on direct losses such as the culling of infected herds, slaughtering and rendering costs etc. This may result in adverse incentives under certain circumstances, because operators with infected herds may be better off than operators under veterinary movement restrictions;
- Community co-financing rules are complex and partially require significant administrative efforts for all parties involved;
- The risk of livestock disease outbreaks to the Community budget has possibly been reduced because of clearer compensation rules, however in principle the current system of co-financing still poses a significant risk for the Community budget;
- Participation of stakeholders in the decision-making process concerning veterinary emergency measures is not encouraged and fully depends on MS implementation rules and the degree to which cost-sharing schemes are already in place at MS level.

[1] We will refer in the following to the "Veterinary Fund", although technically speaking, the "Veterinary Fund" is not an actual fund but a summation of budget line 17.0403

Current cost-sharing schemes in EU Member States are very diverse in their focus and institutional set-up. Farmers' financial responsibility for direct losses differs among the systems in the three countries analysed in depth. For example, through their contributions farmers in the Netherlands fully cover direct losses up to a certain limit. The share of financial responsibility for larger outbreaks depends on their magnitude because the government bears all direct losses above pre-defined ceilings. Through the system of *Tierseuchenkassen* German farmers bear half of the direct losses that are not reimbursed by the Community while farmers in some other MS do not bear direct losses due to epidemic livestock diseases. These differences between Member States could contribute to possible distortions of competition. Anecdotal evidence seems to indicate that the mere existence of a cost-sharing system provides incentives for farmers to consider more effective bio-security measures. The involvement of farmers' organisations in negotiating compensation conditions in "peace time" and/or in the management of the scheme also provides the possibility of both setting and communicating prevention priorities. At an individual level, incentives very much depend on the details of the compensation rules applied. For example, farmers in the Netherlands do not receive compensation for animals that are dead at the first visit of the veterinary authority and only half of the animal value for animals with visible disease symptoms. Rules like these are likely to provide additional incentives for rapid reporting of disease outbreaks to the veterinary authorities.

Options for a harmonised EU framework for cost-sharing schemes were analysed on the basis of six criteria:

I. *Categorisation of animal diseases* – the public interest in managing risks associated with a particular disease depends on possible public health and/or economic impacts of an outbreak.

II. *Efficient risk transfer and incentive compatibility* – Compensation rules for disease outbreak losses have to encourage risk-reducing behaviour of all parties involved.

III. *Balancing costs and responsibilities* – Government intervention is needed to facilitate cost-sharing, while taking into account subsidiarity. Social aspects have to be considered.

IV. *Prevention of distortion of competition* – Cost-sharing schemes should be harmonised to the extent necessary and not lead to a distortion of competition between MS.

V. *Compatibility with EU requirements* – Cost-sharing schemes should operate within a framework for state-support that takes into account EU and WTO requirements.

VI. *Effectiveness and flexibility of implementation* – A harmonised EU framework should support effective disease control while allowing flexibility of implementation in MS.

Taking into account these criteria and the analysis in section 5 the pre-feasibility study has concluded that:

⇒ ***Developing an EU framework for harmonised cost-sharing schemes is a feasible option.*** A system of harmonised schemes for the sharing of responsibilities and costs of epidemic livestock diseases could contribute to preventing major financial risks for Member States' and Community budgets, enhancing the welfare of operators and providing incentives for prevention. Whether these benefits can be achieved in practice depends on the details of the operational principles that have to be defined at EU level and on their implementation at MS level.

The aim of cost-sharing schemes: Covering operator's risk of disease and minimising total costs and losses of disease outbreaks over time

Existing compensation schemes are mainly focused on providing a compensation mechanism for operators in case of disease outbreak. Only very rarely are prevention measures supported. The lack of financing of prevention measures may in some cases lead to inefficiencies, as the total costs of an outbreak might be higher than what it would have cost to prevent the outbreak of the disease or contain it at an early stage by applying appropriate bio-security measures. An *efficient cost-sharing scheme*, however, takes such considerations into account and aims to minimise the sum of total costs and losses of disease outbreaks and costs of prevention and control measures over time, besides covering an operator's risk of disease. A cost-sharing scheme is more than just a compensation mechanism; it is also an arrangement for promoting efficient prevention and control measures by governments and operators.

Currently the setting of legislative standards is a common instrument to ensure animal health in the Member States. A legal standard should only be considered if such a standard would be efficient for each farm in the country that has to implement it. However, efficiency of many measures may differ at regional and farm level. It is, for example, likely that in "intensity hot spots" efficient on-farm bio-security standards are higher than in regions with low farming intensity, because an outbreak in a hot spot causes higher costs and losses. Efficient standards therefore need to take into account regional factors. Compulsory insurance can work as a mechanism to induce operators to determine and implement efficient on-farm bio-security standards that are beyond legal requirements and consider public benefits. This is also illustrated by existing cost-sharing schemes: The participation in both the German and the Dutch scheme is compulsory for operators. A complementary way of government intervention to ensure efficient animal disease risk management is to subsidise prevention measures. Both such instruments could be applied by cost-sharing schemes.

Based on the analysis in section 5.3 the pre-feasibility study concludes:

⇒ ***Cost-sharing schemes could promote bio-security standards that are higher than legal standards, when this is efficient.*** The reason for this is that efficient standards may differ between farms or regions. Cost-sharing schemes should therefore be free to provide incentives for higher bio-security standards through premium reduction and subsidising prevention measures, to induce operators to conduct efficient on-farm prevention.

⇒ ***Participation of operators in a cost-sharing scheme has to be compulsory.*** A cost-sharing scheme can take into account public benefits of disease control and promote efficient on-farm bio-security measures through differentiation of contributions, under the condition that participation in the system is compulsory.

⇒ ***A cost-sharing scheme could include farmers as well as other operators from the livestock industry (e.g. traders).*** However only those operators that are compensated for disease outbreak losses should contribute to a cost-sharing scheme. Inclusion of parties other than livestock producers has to be judged on the balance of benefits and costs[2]. It is best practice that operators taking financial responsibility through a cost-sharing scheme participate in decision-making.

Responsibility for public intervention: Categorisation of livestock diseases

Responsibility for public intervention depends on possible impacts of a specific disease on public health, animal health and the wider economy. The higher the public benefits of prevention and control measures become the more justifiable government intervention becomes. In this context possible dimensions for disease categorisation would be:

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[2] For a more detailed discussion of this issue please refer to section 5.5.5.

- *Public relevance:* possible impacts of the diseases on public health, animal health/welfare, the environment and the wider economy, depending on factors such as contagiousness, zoonotic potential, and trade relevance;
- *Need for EU coordinated action:* For certain diseases coordinated EU action is required. For other diseases an outbreak would potentially only have economic and/or public health impacts that are regionally limited;
- *Relevance of on-farm bio-security measures:* For specific diseases bio-security measures of operators hardly have any influence on risk. However, for other diseases the risk of outbreaks can be significantly influenced by operators' on-farm bio-security measures.

Disease categorisation is also relevant for other aspects of policy, e.g. for setting priorities for eradication programmes. Consideration could therefore be given to drawing on existing disease categorisation systems and developing these further to provide a basis for an EU wide disease categorisation system that can serve multiple purposes.

Based on the analysis in section 5.4 the pre-feasibility study concludes:

⇒ ***A compulsory cost-sharing scheme only needs to cover animal diseases with high public relevance.*** For some diseases there is a high responsibility for public intervention because of possible significant negative impacts on public health, animal health/welfare, the environment and the wider economy, depending on factors such as contagiousness, zoonotic potential, and trade relevance. These diseases would have to be included in a cost-sharing scheme.

⇒ ***Disease categorisation should take into account the degree to which coordinated action at EU-level is required, or action at MS-level alone is likely to be sufficient.*** In line with the principle of subsidiarity the responsibility for coordination of disease prevention and control should lie at the lowest appropriate level.

⇒ ***Cost-sharing schemes have to be regionally oriented.*** Disease risk differs between regions in the Community. A cost-sharing scheme designed to efficiently manage animal disease risk should therefore take into account regional differences and preferably be set-up at national or regional level. Regional orientation does not necessarily restrict the geographic scope of a cost-sharing scheme to a small area. It is e.g. possible that one scheme is established for several smaller MS, provided that regional factors determining efficient animal health risk management measures are taken into account and a common approach for implementation can be identified.

⇒ ***A comprehensive EU disease categorisation system would facilitate harmonisation.*** Such a categorisation system would make it easier to set priorities for eradication and prevention programmes and create clarity for which diseases compulsory participation of operators in a cost-sharing scheme is required. An institutional mechanism at EU level to regularly review categorisation would also allow emerging diseases to be taken into account.

Operator contributions to a cost-sharing scheme: Providing incentives for prevention

Operator contributions to a cost-sharing scheme have to be adjusted for risk. If this is not done operators with lower risks and high bio-security standards would finance the higher risks of operators with lower bio-security standards. Three general elements of risk adjustment seem to be practicable:

- *Number of animals* in the herd. An operator's contribution to a cost-sharing scheme has to be proportional to the operator's number of animals.

- *Type of animal:* It is useful to differentiate contributions by species and define animal types for each species to approximate animal value. Within one species, animal types could be differentiated according to age groups and/or usage, weight, additions for high quality etc., when animal values depend strongly on these factors.
- *Regional risk adjustment:* Can be achieved by matching the sum of past compensation payments in a specific region or district with the sum of contributions of the farmers from that specific region or district in the same period.

A further differentiation of contributions would depend on whether an operator applies risk-reducing production practices. This could be done through a bonus system.

⇒ ***Operator contributions to a cost-sharing scheme have to reflect their individual risks.*** Practicable criteria to determine individual risks include the *number of animals, types of animals* and a *regional risk adjustment*.

⇒ ***Cost-sharing schemes should provide incentives for additional bio-security measures through* safety bonuses *and* disease-free bonuses.** Cost-sharing schemes could reward observable bio-security measures through a safety bonus (e.g. premium reduction for all-in-all-out pig production). For prevention measures that are not easily verifiable a disease-free bonus should be established to provide additional incentives for bio-security.[3] The bonus could be granted as soon as there were no disease-outbreaks in a certain period of time, e.g. one year. It should then increase as the disease free period increases. Once a disease outbreak occurs at the farm, the bonus would have to be cut immediately.

Compensation payments of cost-sharing schemes: Increasing welfare of operators

Livestock diseases are a major risk for operators. Economic theory provides a clear answer to the question of what an operator whose assets and income are at risk should do: It is welfare enhancing to completely insure such risk, provided there is an organisation which would cover the risk for a premium that amounts to the expected value of the risk of the operator or a little more to make up for the costs of administration. Any type of cost-sharing scheme that transfers disease risk away from operators is therefore welfare enhancing for operators. The welfare improvements of insurance are not limited to certain sub-categories of costs and losses. In order to maximise welfare gains for operators, a cost-sharing scheme should cover costs and losses as completely as is feasible.

Livestock disease outbreaks may cause the following costs and losses for livestock operators:

> *Disease outbreak losses:* (1) Stamping-out of infected herds; (2) Pre-emptive slaughter of contact herds, welfare slaughter; (3) Partial loss of animal value due to control measures such as compulsory emergency vaccination or moving or marketing restrictions causing excessive maturity for slaughter; (4) Costs of slaughter and rendering, disinfection and other direct disease control costs; and (5) Business interruption costs and additional expenses directly related to established restriction zones.

[3] Contributions for costs and losses from diseases where the risk of infection is independent from bio-security measures of operators should not depend on disease-freeness and safety bonuses. Incentives for efficient on-farm prevention are not needed since prevention measures do not make a difference in managing the risk of these diseases.

Price risks: Partial loss in animal value due to price decreases on markets caused by disease outbreaks and/or higher replacement costs.

The scale of disease outbreak losses depends directly on restrictions imposed by veterinary authorities. They only accrue to operators in regions directly affected, i.e. operators with infected herds and operators located in a restriction zone. Existing compensation schemes in the EU mainly provide coverage against some types of disease outbreak losses (e.g. the value of the animal), but other losses related to restriction zones (in particular business interruption costs) are not sufficiently covered (if one does not take into account exceptional market support measures, which are basically ad-hoc measures with the previously highlighted disadvantages). The existing compensation system is therefore inefficient with respect to risk transfer, since costs and losses due to restriction zones can amount to a significant part of an operator’s total losses. Moreover, these compensation schemes may provide adverse incentives. As has been pointed out above, under certain circumstances operators with infected herds may be better off than operators with healthy herds under veterinary movement restrictions. This may impede the use of effective measures to contain the spread of the disease. Therefore cost-sharing schemes should base compensation payments on the sum of all disease outbreak losses.

It should be noted that the position differs with respect to price risks. These should not be covered by a cost-sharing scheme. If a cost-sharing scheme were to cover the price risks of operators under veterinary restrictions, it would be possible that operators whose herds were infected or located in a restriction zone could be better off than other operators not under veterinary restrictions. The reason for this is that price movements do not stop at the borders of restriction zones, they also affect other regions or even nations. An appropriate coverage of price risks in a cost-sharing scheme that avoids adverse incentives would therefore have to involve compensation for all farmers affected by outbreak-related price movements. In such an event the financial commitment of cost-sharing schemes covering price risk would potentially be greatly increased and could become uncontrollable.

In section 5.5.2, the pre-feasibility study has assessed specific compensation rules that prevent adverse incentives and promote early disclosure of disease outbreaks:

⇒ ***A cost-sharing scheme has to cover all disease outbreak losses of operators directly affected by veterinary measures (except price risks).*** This avoids the creation of adverse incentives and ensures efficient risk transfer. Total and partial losses in animal value as a direct consequence of veterinary measures could be covered (e.g. caused by compulsory slaughtering, emergency vaccination), as well as other costs of operators due to such measures (e.g. costs of slaughter, disinfection, business interruption).

⇒ ***Losses of animal value have to be indemnified according to market prices at the time of slaughter.*** To guarantee swift compensation and avoid adverse incentives, cost-sharing schemes have to follow or deduce regional market prices for all animal types covered. To prevent speculative price movements pre-crises market values could be used as a cap for compensation, whenever market prices move up after a disease outbreak.

⇒ ***Compensation payments for total losses due to emergency slaughter of infected herds have to depend on the prevalence-rate of the disease.*** The share of diseased animals in a herd, i.e. the prevalence-rate, can serve as a signal for the time-lag between the time when first symptoms could have been detected and the time of reporting. If the prevalence rate at the time of notification is not higher than the acceptable rate of visibly diseased animals, losses should be compensated for completely. Compensation payments should be significantly reduced when the prevalence rate is higher. The *acceptable rate of visibly diseased animals* would have to be defined for every disease covered under the cost-sharing scheme, depending on the unambiguousness of disease symptoms, the contagiousness, length of the incubation period, and probably other factors. Such a compensation rule would provide incentives for early disclosure of disease outbreaks.[4]

⇒ ***Direct disease control costs of operators such as disinfection costs could be indemnified completely.*** This type of loss could be fully indemnified in a cost-sharing scheme that aims at providing the highest possible risk transfer to farmers, preferably according to pre-determined flat rates to reduce the risk of inflated prices during crisis situations.

⇒ ***Business interruption losses and other costs directly related to regulatory restrictions could be indemnified on the basis of daily flat rates.*** Rates could be negotiated between operators and the cost-sharing scheme to be adjusted in line with the operators' needs (with higher flat rates implying higher contributions of the operator to the scheme).

⇒ ***Price risks should be excluded from the costs and losses covered by cost-sharing schemes.*** Alternatives to cover animal product price risks are financial derivatives such as futures and options, private insurance solutions or public market support measures. One option would be to develop "safety-nets", e.g. through the provision of public support for the development of adequate insurance markets[5]. The participation of operators in a safety net could be voluntary, because it is a management decision that only affects the operator, unlike on-farm prevention induced through compulsory participation in a cost-sharing scheme. Compensation mechanisms for price risks should, however, not be related to cost-sharing schemes for disease outbreak losses.

A harmonised framework for cost-sharing schemes: Leaving room for flexible implementation

Member States currently feature various arrangements to cover losses from animal disease risk. The most feasible approach seems to be to define a harmonised Community framework for national or regional cost-sharing schemes, which could have different institutional set-ups, but would have to function according to harmonised principles. This would allow for flexibility of implementation by the Member States and at the same time be likely to increase acceptance amongst stakeholders, as participation mechanisms are easier to implement at the national or regional level. Possible institutional arrangements for covering losses from animal disease outbreaks can either be publicly or privately organised. Options analysed in the framework of this pre-feasibility study include *public funds* set-up and operated by Member States or regional governments, *mutual funds* operated by farmers' associations and cost-sharing schemes that involve *private insurers*. It is generally feasible to combine two or more options within one cost-sharing scheme, e.g. through creating hybrid forms or through dividing animal health risk and putting different cost-sharing schemes in charge of different elements of the risk. For example, it would be possible to combine a public fund that compensates the value of culled animals with compulsory private insurance for other costs such as business interruption losses. However, if a combination based on dividing risk is considered, it should be noted that total transaction costs are likely to be higher compared to a single cost-sharing scheme.

Based on the analysis in section 5.6 the pre-feasibility study concludes:

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[4] Prevalence rate-dependent compensation rules have to be carefully designed. This is particularly true when the cost-sharing scheme involves a disease-free bonus as recommended above. An adverse incentive could result to not report an outbreak in order to save the disease-free bonus. In order to avoid this, an operator's disease-free bonus should not be forfeited when the operator reports a disease before a restriction zone is established that includes the operator's premises.

[5] This has been suggested in the 2005 Communication from the Commission to the Council on risk and crisis management in agriculture COM(2005) 74 final of 09.03.2005, Communication on risk and crisis management in agriculture

⇒ ***A harmonised EU framework for national and regional cost-sharing schemes is needed, but this does not determine the institutional arrangements.*** Options for institutional arrangements include:

- **Public fund:** A fund administered through a public authority.
- **Mutual fund:** A mutual fund or insurer owned by the participating operators.
- **Private insurers:** Participation of private insurers in a scheme.

The decision concerning the most appropriate institutional arrangement for a national or regional cost-sharing scheme has to be taken in line with the principle of subsidiarity at the MS level.[6]

Public financial support to cost-sharing schemes: Avoiding distortion of competition

Bio-security does not only depend on bio-security measures taken by farmers and other operators. The effectiveness of controls on tourists entering the Community and on commercial trade flows can also have an impact on the degree of exposure of operators to exotic diseases pathogens. There is a clear responsibility of EU or Member States' governments for public prevention and control measures to manage the risk of publicly relevant diseases, which is the reason that public prevention and control measures (including border control, eradication programmes, costs of veterinary service etc.) are generally not to be funded from contributions of operators to a cost-sharing scheme, but rather from tax revenues. The EU "Veterinary Fund" was developed as a tool for an additional public financial involvement in the compensation of operators for disease losses, and to ensure effective and rapid control measures in case of disease outbreaks. In the consultation with stakeholder organisations there was a strong interest expressed by all parties involved to keep in place the "Veterinary Fund" as an instrument of EU intervention. However, the current system is characterised by the fact that it systematically subsidises high-risk regions, where outbreaks occur more often and/or are more costly than average. This is problematic as it distorts competition in favour of operators in high-risk regions[7]. Subsidisation of a cost-sharing scheme therefore has to be carefully designed in order to avoid a distortion of competition between farmers in different Member States.

Based on the analysis in section 5.7 the pre-feasibility study concludes:

⇒ ***Public financial support to cost-sharing schemes has to be harmonised to reduce potential distortions of competition.*** Harmonised rules have to determine the sum of financial support from the EU and from Member States to a cost-sharing scheme, so that potential distortions of competition are reduced, since public financial support could imply a systematic subsidisation of high-risk areas.

⇒ ***Public financial support for compensation payments of cost sharing schemes must be limited so that farmer's contributions fund a significant share of the cost-sharing scheme's expenses.*** A cost-sharing scheme has to provide incentives for risk-adjusted farm management decisions through differentiating contributions. This implies that a significant share of a cost-sharing scheme's compensation payments would need to be funded through farmers' contributions to the

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[6] Including the option that several smaller MS decide to set up a joint scheme.

[7] A high risk region is not necessarily a region where bio-security measures are lower. A major contribution factor is the herd density. This has a significant effect on the expected maximum losses. These can be much higher in "intensity hot spots".

cost-sharing scheme. Other expenses of a cost-sharing scheme, e.g. expenses for subsidising certain prevention measures, could be fully reimbursed from public sources.

⇒ ***Public financial support to cost-sharing schemes and compensation rules has to take into account EU state aid rules and WTO requirements.*** This implies, *inter alia*, that compensation payments of cost-sharing schemes can only be provided for losses arising from diseases for which an outbreak has been formally recognised by public authorities and that subsidising prevention measures does not involve direct payments to farmers.

⇒ ***Rules for public financial support to cost-sharing schemes should be designed in a simple and transparent manner.*** Compensation rules of a cost-sharing system for the indemnification of operators require a certain level of complexity to ensure that operators with infected herds are not better or worse off than other operators. Member State and Community financial support to a cost-sharing scheme, however, does not need to reflect this complexity and should be designed as simply as possible.

Options for public financial support to cost-sharing schemes: "peace time" or loss-dependent?

There are two main possible approaches for public financial support to cost-sharing schemes: Peace-time support depending e.g. on the number of animals/operators covered by a scheme and loss-dependent support in case of disease outbreaks (the current situation). Peace-time support of cost sharing schemes would have a number of advantages:

- Peace time support to cost-sharing schemes would not distort competition in favour of high-risk areas;
- This approach could combine funding of the current "Veterinary Fund" with funding that would otherwise be used for exceptional support measures relevant for farmers in restriction zones. This would increase predictability for all parties, including operators, that currently cannot predict whether negotiations in case of a large-scale outbreak will lead to relevant exceptional market support measures;
- The administrative burden would be significantly reduced for all parties involved, including operators, Member States and the Commission;
- Time for compensation of disease losses of operators would likely be reduced, as most related procedures could be administered at the level of the cost-sharing scheme;
- The risk for the Community budget would be reduced to a level agreed in the EU decision making process in "peace time", reducing pressure that could result when such negotiations are conducted during a large-scale disease outbreak;
- Peace-time support could provide a permanent incentive for Member States to set up a cost-sharing scheme that follows harmonised requirements.

The decision whether a peace-time or a loss-dependent financing approach is taken is economic in nature. The potential distortion of competition arising from co-financing of losses can lead to a continuation of unsustainable and inefficient livestock production structures. On the other hand, a lack of loss dependent co-financing could under some circumstances contribute to ineffective control of animal disease outbreaks, which could in turn prolong the duration and increase total costs and losses of a disease outbreak. Any approach taken has to balance these costs. Ultimately it is a matter of policy making, which also has to take into account social aspects of different subsidisation systems. It would also be possible to decide at the political level to add a "new Member State bonus" to the system to allow for higher rates of public support and/or Community co-financing to cost-sharing schemes in some new Member States where conditions may not yet be sufficient to enable contributions at similar levels as in other Member States. However, it is suggested that in all cases operators should finance a significant share of losses through contributions to ensure adequate provision of incentives for prevention through cost-sharing schemes.

Based on the analysis in section 5.7.5 the pre-feasibility study concludes:

⇒ ***Public financial support to cost-sharing schemes could be either peace-time or loss dependent.*** Possible options for public financial support to cost-sharing schemes include:

- **Option A:** Peace-time support;
- **Option B1:** Co-financing of losses excluding business interruption costs;
- **Option B2:** Co-financing of losses including business interruption costs.

It is also possible to combine different options in a two-stage approach where loss-dependent public financial support would be continued for a limited period of time before gradually shifting to the more advantageous peace-time support when cost-sharing schemes are fully operational in all Member States.

Financial feasibility of cost-sharing schemes: Public loans to back up disastrous losses

Animal health risk is highly cumulative, which means that one loss event can trigger other loss events. Even after several disease-free years, a cost-sharing scheme might not have the financial capacity to bear the losses of a catastrophic outbreak on its territory, which could lead to compensation payments that amount to multiple yearly incomes and exceed the sum of contributions and reserves available for compensation payments. There are two possible solutions to address this problem. A cost-sharing scheme could use additional sources of funding that rapidly provide sufficient capital to cover catastrophic losses. The alternative is to establish a ceiling on compensation payments: the cost-sharing scheme would only compensate losses up to a pre-defined level. The former implies that the risk of a catastrophic outbreak is fully borne by the cost-sharing scheme and the party providing these emergency funds, the latter leaves it mainly to the operators. It is obvious, however, that farmers and other operators have the least capacity to bear the catastrophic part of animal health risk, since it can take an existential magnitude and could lead to bankruptcy and other tragedies. The other options are that this risk is covered by private re-insurers or the government. The most feasible approach seems to be at this stage that the Community or Member States governments provide a loan at predefined conditions regarding the pay back period and the interest rate applied as soon as a cost-sharing scheme is unable to pay compensation.

Based on the analysis in section 5.8.3 the pre-feasibility study concludes:

⇒ ***The Community or Member States could provide contingent capital to cost-sharing schemes on their territories if their funds run dry.*** As animal health risk is highly cumulative, it is likely that cost-sharing schemes in some cases are unable to meet all claims for compensation after a major disease outbreak. A public loan provided to a cost-sharing scheme at predefined conditions regarding the pay back period and the interest rate, is an adequate funding mechanism with low transaction costs. Contingent capital would need to be provided at harmonised conditions to prevent a distortion of competition. Further analysis of options for the provision of contingent capital is required. The ongoing reform process of EU insurers' solvency requirements (Solvency II) has to be taken into account when a system to back up cost-sharing schemes for disastrous events is developed.

Budgetary implications: "Peace time" support limits public contributions to disease losses

Currently animal health risk for direct losses lies with the government in most Member States, with a significant part co-financed by the Community. Operators themselves mainly cover other losses such as business interruption costs. Therefore total risk is currently already shared between public institutions and operators. The three financial options described above determine which part of the total losses would in future be carried by the public sector and which part of the losses would lie with the collective of operators covered by a scheme.

Based on the analysis in section 5.8.4 the pre-feasibility study concludes:

⇒ ***Whether cost-sharing schemes prevent major financial risks for Member States' and the Community budget depends on the option chosen for public financial support.*** Financial option A *("peace time" support*) limits the amounts of disease outbreak costs and losses borne by Member States' and Community budgets to a politically agreed level. Option B1 (*co-financing of losses excluding business interruption costs)* may not imply an increase in the share of disease outbreak costs and losses borne by Member States' and Community budgets, whereas option B2 (*co-financing of losses including business interruption costs*) could imply an increase in the share of disease outbreak costs and losses borne by the public. The option chosen for public financial support is, however, not related to the compensation rules that have to be applied for the compensation of individual farmers by the cost-sharing scheme (see table on the next page).

It should be emphasized that under all options the obligation to provide contingent capital to a cost-sharing scheme is a serious financial commitment for Member States, which could result in the obligation to provide a large-scale loan of one billion Euro or more in a worst case scenario. However, one party has to provide this risk-bearing capacity. Farmers are the most inappropriate party to bear disastrous risk, since it can devastate their livelihoods, unlike governments. Except from the provision of contingency capital, which would have to be repaid over time by the cost-sharing scheme, this system will not require undue levels of public funding. Of course, in case of a large-scale outbreak pressure to convert the government loan into an ad-hoc payment has to be resisted. Provided that conditions for repayment of the loans are harmonised, this system will also minimise a potential distortion of competition between operators in different Member States.

Table 1: Overview of loss category, compensation payments to operators and possible options for public contributions to cost-sharing schemes (CSS)

<table>
<tr><th rowspan="3">Cost/ Loss category</th><th rowspan="3">Description</th><th rowspan="3">Compensation of operators by the cost-sharing scheme in case of disease outbreak</th><th colspan="3">Public co-financing of CSS</th></tr>
<tr><th rowspan="2">Option A: Peace-time support</th><th colspan="2">Option B: Co-financing of losses</th></tr>
<tr><th>B1</th><th>B2</th></tr>
<tr><td>Prevention costs</td><td>Bio-security measures</td><td>To be borne by operator, some prevention programs covered by CSS and e.g. rural development measures</td><td colspan="3">Public financial support based on pre-defined criteria such as number of animals/operators covered by CSS, relevance of prevalent diseases, programs proposed etc.</td></tr>
<tr><td rowspan="5">Disease outbreak losses caused directly by restrictions imposed by veterinary authorities</td><td>Stamping-out of infected herds</td><td>Partial compensation, depending on time of reporting, based on animal value at time of slaughter</td><td rowspan="5">Regular public financial support based on pre-defined criteria such as number of animals covered by CSS to cover operating costs and to create a fund for future outbreaks</td><td colspan="2" rowspan="3">Fixed percentage of public contribution to animal value compensated by the scheme, possibly depending on disease category</td></tr>
<tr><td>Pre-emptive / welfare slaughter</td><td>Full compensation of animal value</td></tr>
<tr><td>Partial loss of animal value due to e.g. emergency vaccination</td><td>Full compensation of loss in animal value</td></tr>
<tr><td>Costs of slaughter and rendering, disinfection etc.</td><td>Full compensation or predefined flat rate</td><td colspan="2">Public financial support to the scheme based on predefined flat-rates</td></tr>
<tr><td>Business interruption costs</td><td>Predefined flat rate</td><td>No public contribution</td><td>Flat-rate contribution</td></tr>
<tr><td>Price risks operators</td><td>Drop in animal value due to disease outbreaks</td><td colspan="4">Not covered</td></tr>
<tr><td>Losses other sectors</td><td>Direct and indirect losses of other sectors</td><td colspan="4">Not covered</td></tr>
</table>