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THE ORGANISATION OF LIVESTOCK INSURANCE

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ALTHOUGH the insurance of livestock has been undertaken in Great Britain for a matter of about 200 years, the progress made both in the number of livestock insured and in the organisation of this class of business is disappointing. During the 17th and early 18th centuries a number of insurance companies of a mutual character were founded with the object of covering livestock risks, chiefly horses, but the life of these companies was as brief as the risks they insured and they were quite unequal to meet the demands made upon them. The frequent bankruptcies resulting in many unsatisfied claimants made it very difficult for those companies who were to follow, but from 1844 when the Farmer's and Grazier's Company was formed until today, a large number of companies have undertaken the insurance of farm livestock. These are in the main, however, joint stock companies with other important and profitable insurance interests than livestock risks. From inquiries made there is no doubt that the amount of insurance against death from disease or accident, placed on farm livestock by these companies, is very small. In fact I would say that 90 per cent of the premium income from the insurance of livestock of all these companies is obtained from insuring specific animals against special risks such as foaling, castration, transit, and so forth.

Generally speaking, only cattle and horse risks are covered and the premium rates for cattle vary from 4 per cent for fattening cattle to $7\frac{1}{2}$ per cent for dairy cows. The risk of death from tuberculosis, however, is not included in the above rates unless the insured animals have passed successfully a tuberculin test. When tuberculosis is included in the proposal a further $2\frac{1}{2}$ per cent is usually charged. Compensation paid is generally the full market value except in certain cases when only two-thirds of the value is paid.

By far the most important class of horse insurance is the risk attendant on foaling. Brood mares can be insured either for 30 days commencing with foaling or six months or more from the date of foaling. The premiums vary from $3\frac{3}{4}$ to 7 per cent.

Similarly horses used for agricultural purposes can be covered against death from disease or accident at rates of premium varying from 4 to 8 per cent. Briefly, the above are the risks involved and rates of premiums, usually charged. It is well to remember, however, that although there are facilities open to the farmer to cover the many risks involved in his business, they are not such as to make it a feasible financial proposition for his serious consideration. After all it can hardly be expected of the farmer to insure a dairy herd of 30 cows at the rates of premium prevailing at present which in the example given would require approximately £70 not including the risk of tuberculosis. In this example it is good business for the farmer to stand his own losses.

The tariff and non-tariff companies make no attempt to develop livestock insurance as they do other classes of insurance risks, and even when it is undertaken the large proportion of the insurance written covers special risks, particularly foaling and transit, and not the risk of death or accident of commercial farm animals. One insurance company official has maintained that livestock insurance is not one of the most lucrative of insurance risks as evidenced by the small margin of profit made by even those companies who make it a special feature. One can readily believe this statement and the small financial return is due not to low premium rates but to low premium income. It appears that the big insurance organisations, more interested in other and more profitable branches of insurance, consider that the rates quoted for livestock risks can not be lowered however prohibitive they may be to the farmer. The facilities offered by the joint stock companies at the present time are not, in the opinion of farmers, sufficiently attractive to induce the average farmer to even consider the insurance of his livestock.

In addition to the tariff and non-tariff companies undertaking the insurance of livestock risks we have in England a number of small mutual insurance societies better known as cow and pig clubs. The Ministry of Agriculture ascertained that there were over a thousand pig insurance societies and approximately 150 cow insurance societies in England immediately before the war. A survey which we made in 1926, however, clearly showed that both in numbers and membership these small societies have rapidly declined since 1913. Of over 800 known pig clubs in 1911 only 300 were traced in 1926. Taking 1913 as indicating a 100 per

cent membership and pigs insured, the corresponding figures for 1926 would be 74 and 79 per cent respectively. The decline in the numbers and membership of the cow clubs has been even more severe.

Both the cattle and pig insurance societies are mutual organisations consisting mainly of very small holders and cottagers in the district where the society has been formed. All the societies have some form of rules but these are not in any way as comprehensive and binding on the member as are the rules of similar continental societies. The administration of such a society is in the hands of a president, secretary, and a management committee of from four to six members. With a few exceptions, all the societies charge an entrance fee on new members ranging from 6 pence to 3 shillings 6 pence per animal in the case of pigs and 2 shillings 6 pence to £1, 10 shillings per animal in the case of cows; that is, roughly, from 10 to 80 cents and from 60 cents to \$7. Premiums for pigs vary from 1 shilling to 6 shillings per animal per year, and for cows from 2 shillings to 12 shillings. Compensation varies in different societies—some paying full market value others two-thirds of that value. The growth of these local mutual insurance societies is an expression of mutual dependence and co-operation and there is no doubt that many of these small mutual associations have been very successful and have realised their primary object of covering the livestock risks of the cottagers at very low premium charges. They have not, however, attracted the medium- and large-scale farmers and as at present constituted they can not possibly tackle livestock insurance on a big scale. As experiments in mutual livestock insurance the history of these small societies is interesting, and within a limited sphere, they have been commercially successful; but as long as they remain isolated societies without the advantages of either re-insurance or federation it is quite impossible for them to make any substantial contribution to the solution of livestock insurance in Great Britain.

Mention should also be made of another form of mutual insurance which has developed of recent years in Great Britain. I refer to slaughter insurance. Owing to the stringently enforced regulations governing the sale of meat, butchers are liable to suffer heavy losses on account of animals being condemned as unfit for consumption. With a few exceptions the butchers them-

selves organise an insurance fund to cover themselves against the risk of meat condemnation and farmers are not asked to contribute to the scheme. One association investigated had approximately 140 butcher members insuring annually 14,000 cattle. It was found very early in the history of this society that cows were a very unprofitable class and had to be abandoned. The premiums charged for other classes of cattle vary from 1 shilling 6 pence per head for bullocks and heifers, to 7 shillings 6 pence for heifers once calved. Compensation is paid at the rate of two-thirds the market value.

Another society similar in character but involving both farmers and butchers and administered through an auction mart is an interesting example of what can be done in the direction of neutralising losses suffered through unforeseen causes. This society levies a half penny per pound sterling of the price realised in the auction, on both the farmer and the butcher and the full value of the beast is paid in the case of a confirmed claim.

The fund covers the risk of tuberculosis and does not include any other disease risks. A comparison of the two slaughter cattle insurance associations described above provides the following points of distinction. In the first place, the auction mart insurance fund covers its members only against the risk of tuberculosis whereas the other society insures against all infectious and contagious diseases. Secondly, the former definitely limits the insurable risk to two classes, bullocks and heifers. Lastly, there is a very important difference in the assessment of premiums. The auction mart fund collects its premiums from both the farmer and the butcher on the basis of a given sum per pound sterling, the other society charging a fixed premium per head.

Briefly, the above are the existing forms of organisations undertaking the livestock insurance business in Great Britain, but the farmers, generally speaking, do not take advantage of the facilities offered for insuring livestock risks other than the special risks mentioned earlier. Is it the insurance organisations or the farmers that are responsible for this condition of affairs?

It is sometimes maintained that the financial institutions of England have been developed to meet the needs of the manufacturing industries and of commerce and not the needs of agriculture. Banking principles, for example, have been evolved to meet the credit requirements of our big industrial and commercial concerns,

and it is the opinion of many that effective credit facilities for the farmer have yet to be evolved. Can the same reasoning be applied to insurance? During the 19th century the development of practically all forms of insurance was rapid. The risks involved, particularly in some forms, were scientifically evaluated and the rates of premium were calculated not so much on competition as on the evidence of long periods of statistical investigation. With the rapid growth of industrial and commercial activity since 1850 the insurance offices have realised that only through efficient organisation and a strong financial status is it possible to meet the increased demands for provision against loss of life and property. Today a business man can insure his property, his workmen and his life for large amounts with complete confidence that should the calamity happen against which he is protected he will obtain full satisfaction.

The farmer has also every facility for insuring his house, farm buildings and stock against the hazard of fire and his workmen from accidents. Agriculture, however, in many respects is distinct from all other industries, and the principles which would apply in the one do not necessarily apply in the other.

Capital invested by the farmer in the form of buildings, harvested crops, growing crops, livestock and labour is even today open to many risks of partial or even complete destruction. Within the last three decades considerable progress has been made in the prevention of disease amongst livestock and crops and naturally such progress lessens appreciably the risks of losses in production. There are, however, instances where the outbreak of fire, the ravages of a disease or the inclemency of the weather cannot possibly be foreseen. Under these circumstances the farmer is almost powerless and his only safeguard is insurance. Further, the farmer has his capital invested in many different enterprises, the risks involved varying in importance for each enterprise. Insurance of this kind, from the insurer's standpoint, demands a great deal of supervision to overcome what is generally known as moral hazard. This, needless to say, is not peculiar to agriculture but it is undoubtedly far more difficult to overcome. In this connection it is pertinent to ask if the present system of large joint stock insurance companies, their interests not mainly concerned with agriculture, can ever overcome some of the difficulties peculiar to farming and at the same time cover their risks at an attractive

premium. It is readily admitted that when farming risks resemble those found in other industries the joint stock company form of organisation can give complete protection at a fair premium payment. When, however, the farmer wants to cover his special risks, for example, to insure his crops against hail or disease, his livestock against the risk of mortality, the present system, judging only by results, does not easily lend itself to meet this demand. The joint stock form of organisation necessarily carries heavy overhead charges, is usually centralised in administration and is essentially a profit making concern which makes it very difficult for the companies to offer the farmers insurance cover on attractive terms. The mutual form of insurance organisation, more common on the Continent of Europe than in England, has certain decided advantages over the joint stock form in that it does not have to provide large sums of money for overhead charges and profits. However, even if the mutual forms are organised to cover a wide area the problem of supervision is still formidable.

Another difficulty with the risks peculiar to agriculture is the question of measurement. The fixing of premiums can not be left to guess work and the competition of the market. With the application of the principles of insurance to human life, considerable actuarial progress has been made in evaluating risks. In life insurance today the mathematician is in a position to calculate the probable length of any individual's life from his present age. Estimation from statistical data of percentage losses to total losses based on complete mathematical measurement of probability is equally applicable to risks other than those of human life. In agriculture the farmer carries on his own shoulders the burden of many risks which are measurable, and insurance would appreciably lighten this load. The difficulty, however, in connection with such risks as hail, windstorm, disease, or mortality of livestock is the paucity of information regarding those risks. On the Continent of Europe and to a less extent in the United States of America, evidence is available on the incidence of losses suffered by the farmer. Until such information is available in England it will be almost impossible to tackle the problem of agricultural insurance, particularly livestock insurance, with any hope of success.

In addition to the necessity of obtaining information for the purpose of measuring risks, it is equally essential to know some-

thing about the selection of risks. All kinds of risks are not equal, and even in the same class of risk there is a great deal of variation. Malherbe well defines this principle of selection as it applies to agriculture when he says that "it means the careful selection of risks and the excluding not only of positive risks, but again those risks which present a predominance of unfavourable chances." To overcome this danger insurance of the same risk must be divided into a number of classes depending on age, condition of health, kind of work performed and so on, in which the premium will vary for each class. If this variation exists within the same general class, obviously, it is even greater in the different kinds of insurable risks covered. Generally speaking, the risks peculiar to agriculture can be looked upon as comparatively regular in their incidence, and as affecting a number of people in varying degrees of intensity depending on the size of the holding and the extent of their business. Naturally, the small farmers suffer more from the lack of insurance facilities than does the larger farmer but even the large farmer can not afford to indefinitely ignore the position in which he finds himself. At present the selection of risks and their evaluation are too much against the farmer, that is, the premiums are high, probably because the insurance companies consider most agricultural risks and especially those peculiar to agriculture as certain or *quasi* certain. Non-farming risks are more profitable than the purely farming risks. The ratio of losses in the former are considerably lower, and as is the case with agricultural credit, the existing machinery lends itself more easily to non-agricultural business. It is extremely unlikely under these circumstances that the big tariff offices will devote more attention in the future to the risks peculiar to agriculture.

The question of risk measurement and selection, moral hazard and supervision raises the important problem of organisation. The organisation of insurance differs according to the nature of the risk. If the risks to be insured are small it is not necessary to have a big organisation with heavy overhead charges which necessarily mean higher premiums. Continental experience and practise favor some form of mutuality in the business of agricultural insurance. Cow and pig clubs are forms of mutual insurance societies existing in England which have accomplished much in insuring the livestock of the small farmer. The area covered by

these societies is small and efficient supervision is possible because the members are well known to one another. The great drawback, however, in such an organisation as this if applied to larger farmers is the limitation of its sphere of activity. A mutual insurance society covering a parish or two will be successful provided no severe losses occur or at least do not occur until a good reserve fund has been built up. If heavy losses have to be met in the initial stages the chances for successful progress are remote. The affiliation of these small societies to a centralised society or the re-insurance of a proportion of the risks underwritten would solve the problem of distributing the risks over a wider area thus making the burden of losses, when occurring, easier to withstand.

Insurance of the ordinary livestock of the farm presents many difficult problems of organisation which in some measure are common to other agricultural risks. Probably the difficulty of overcoming the moral hazard problem is more acute in this class of business than in any other. A French economist maintains for example, that the great peculiarity of livestock insurance is that it is not in the interest of the farmer to look after his insured animal—"He finds it on the contrary to his advantage in many cases to let the animal die." In France this difficulty of supervision experienced by the big joint stock companies forced the companies to increase the premiums and pay only a share of the insured value. These steps, however, were not sufficient in themselves to overcome the difficulty of supervision, and it has been maintained that it was only after livestock insurance was taken up by what are termed "Mutuelles Locales" that this class of business flourished in France. As Jouzier maintains, these societies have furnished in the most complete manner the solution to the livestock insurance problem. Composed as they are of farmers who know each other and whose moral code is in itself a security, they have made inexpensive supervision possible. An examination of the premiums demanded by a joint stock company and those demanded by a local mutual society revealed the fact that the former demanded a premium of slightly over 40 francs per thousand francs insured while the latter only charged a little under 8 francs for the same total value insured. It appears from this that French experience justifies the theory that ordinary joint stock companies are not the most suitable and efficient form of organisation to cover livestock risks.

I think that there are two or three points arising out of my previous remarks which are of fundamental importance in connection with the successful organisation of livestock insurance. The first of these is the question of distribution of risks. A local society only grouping a very limited number of risks will, without the slightest doubt, be the victim sooner or later of a predominance of unfavorable risks and this to a small society with limited financial resources would be fatal. This is what has actually happened to the cow and pig clubs in England and a number of unaffiliated local societies in France and Germany. To guard against such an eventuality it is essential for insurance societies, if they are organised on a local basis, to re-insure part of their risks. Re-insurance can be effected either through affiliation with a provincial society or directly with a national association. In France, a number of provincial societies further re-insure with a national association. This, however, will depend on the area covered and the number of risks insured. Judging from continental experience, the essential point is that there should be sufficient distribution of risks to insure the advantages obtained from the law of averages, although in this connection it might be mentioned that one of the most successful livestock companies in France definitely limits its area to three departments and the manager of this same society maintains that if livestock risks were spread over a bigger area, the insurance office would be open to a very uncertain and heavier average of losses and he contends that to be successful an insurance company, dealing exclusively with livestock, should limit its activities to a small area where the risks tend to be uniform and where fair tariff rates can be established; that, the organisation should be of a mutual character, as otherwise it would not make sufficient profits to repay capital and provide for reserves; and that it should not exceed 30 per cent of total receipts for expenses, including commission charges.

To be effective, safe, and attractive, is the ideal aimed at in any form of insurance. What form of organisation will meet most successfully these requirements? In England, the joint stock insurance companies admirably fulfill one of the above principles, namely, safety, but livestock insurance in England is not effective because the premiums demanded are not sufficiently attractive to the farmer. They are high because in the main administrative expenses of supervision are high. It is not easy and probably

impossible for the big joint stock companies to overcome many of the difficulties of supervision, depreciation in values, and constant inspection which is characteristic of livestock insurance. To successfully undertake this class of business, supervision must be effective and at the same time inexpensive. Most of the continental European countries where a great deal of livestock insurance is practised favor some form of mutual insurance organisation effected mainly through local societies affiliated or re-insuring their risks with bigger associations. Continental experience, and writers on this subject of organisation almost unanimously maintain that only through local mutual insurance societies is the farmer able to insure his livestock inexpensively and this is attributed to the efficient and economical supervision of the local societies. It appears both from the success of this form of insurance in some of the European countries and the negligible amount of insurance effected in England through the joint stock companies that there is every justification for this view.

Another point of importance and one to which I had intended devoting more attention, is the part of the state in the organisation of livestock insurance. In France, Belgium, and Germany, the government has taken an active interest in the formation and administration of local mutual insurance and re-insurance societies. Annual financial grants are given to these associations provided they fulfill certain conditions with regard to organisation and structure as well as supplying the government with annual statistical returns. It can be definitely said without any qualifications that had the state not assisted both in a financial and regulatory way in the organisation of the continental insurance societies, nothing like the same success would have been attained. The part taken by the state in connection with livestock insurance raises the last point I wish to make this evening. I refer to the problem of livestock losses and diseases which is of the utmost importance not only to the farmer but to the nation. The problem of losses is naturally a serious one but the prevalence of certain diseases such as tuberculosis demands a closer examination than has been given to it in England. Steps ought to be taken by the government to ensure the collection and publication of statistics relative to both incidence and cause of losses among livestock. One of the ways, and perhaps the best, would be through the formation of livestock insurance societies which, if assisted by

the government, would be obliged to furnish complete information on both these points. Livestock insurance as effected by the Baden Cattle Insurance Federation in Germany for example, not only covers the risks the farmer undertakes in the production of livestock but serves also as a measure leading to the prevention and lessening of these risks.

It is well to remember that indemnifying the insured against possible losses is only one aspect of insurance. The other, and equally important aspect, particularly in the case of farm livestock, is the influence of insurance in the elimination and prevention of infectious and contagious diseases, and in this connection the state could play an important and effective part.