COMPENSATION FOR WAR DAMAGE: AN ECONOMIC VIEW

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The physical distances separating the United States from its enemies sheltered it in World Wars I and II from any direct military attack, but, as we all know too well, modern military technology has placed in the hands of possible enemies in a future war the power to inflict enormous destruction upon lives and property within our borders. One of the problems this contingency raises—a problem in which lawyers should have a special interest—is that of insurance or, more generally, compensation for those who bear the immediate impact of the enemy's destructive power.[1] Faced with this problem, the lawyer will probably be impressed primarily by the more or less fortuitous distribution of the losses suffered; by the ramifications of the original losses throughout the social-economic system because of defaults on loans, non-performance of contracts, disturbance of lines of succession, etc.; and by the difficulties of equitably remedying these losses. All this is, of course, in addition to his special concern with the maintenance of govern-

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1. The elements of the problem of compensation for war damage have been neatly stated in a publication of the United States Chamber of Commerce:

The complete problem of war damage indemnity can, for convenience, be broken down into the following principal headings:

(1) Damage to ships
(2) Damage to cargo of ships
(3) Damage to buildings
(4) Damage to land
(5) Damage to personal property, which may be divided into:
  (a) Essential commodities
  (b) Business contents, including machinery, etc.
  (c) Private personal property
(6) Personal injury to civilians
(7) Economic consequences, due to inability to convert to war production or to rebuild in case of damage.

U.S. Chamber of Commerce, War Damage Indemnity: A Study and Declaration of Policy 6 (1950). This pamphlet, remarkable at once for its clarity, brevity, and completeness, is recommended as an introduction to the subject. Hereafter, it will be referred to briefly as War Damage Indemnity. An important companion document to the above is U.S. Chamber of Commerce, Ins. Dep't, Analysis of War Damage Indemnity Laws (mimeographed 1950). Hereafter, this document will be referred to briefly as Analysis.

For the purposes of the present paper, we shall exclude discussion of marine losses (categories (1) and (2) above) as well as the extremely important subject of personal injuries (category (6)). The latter, especially, is of the greatest importance, and measures taken to reduce vulnerability to property damage can quite generally be combined with measures reducing potential human losses. Nevertheless, it raises special problems in connection with valuation of losses and will not be discussed here. In practice, it is to be hoped that a scheme compensating for loss of property will be instituted jointly with one covering loss of life and limb.

ment and order, the preservation of vital records and the functioning of the judicial process.[2]

The economist, however—and it is largely from the point of view of the economist that this paper is written—is impelled by his professional training to consider one important problem which the lawyer or even the insurance specialist may tend to overlook. This question concerns the effects on the nation's allocation of resources both before and after a bombing of the various insurance or indemnity schemes which might be adopted. In particular, the main object of this paper is to point out that a properly conceived insurance plan will yield an important social gain by tending to encourage private peacetime action which will effect a reduction in our national vulnerability to bombing; conversely, a poorly conceived plan will tend to discourage efforts to reduce vulnerability.

An insurance plan can be successful in reducing national vulnerability to bombing if properties in safe locations, of strong construction and with adequate fire protection can be covered by insurance at more favorable rates than properties in concentrated target areas and with poor blast and fire protection. If the schedule of rates is so constructed as to represent at least roughly the differing risks involved in insuring various types of property, property owners will attempt to diminish their insurance costs by decreasing the vulnerability of their property to bombing: for example, corporations will be encouraged to make new investments in dispersed areas instead of adding to existing plants in concentrated target areas, and there will be a general incentive everywhere to improve construction, to demand improved community fire precautions, and so forth. In the aggregate and over the years, it is believed that a substantial reduction in vulnerability can thus be effected.

The need for a reduction in vulnerability has been emphasized by the many statements of responsible military and civilian officials that our active defending forces are not and cannot be an impenetrable shield, but rather can only be expected to impose a certain measure of attrition upon an attacker. Yet, in the United States today, billions are being spent on active defenses against bombing, while little has been done to make up for the admitted deficiencies of active defense. Most of that little has been directed by the Federal Government towards encouraging dispersion, but in many instances protection against blast and fire by such devices as strengthening and fireproofing buildings, shielding vital machinery, reducing flying glass hazards and constructing personnel shelters, or by community measures

2. On these points, see two extremely important articles by David F. Cavers: *Legal Measures to Mitigate the Economic Impact of Atomic Attack*, 9 BULL. OF THE ATOMIC SCIENTISTS 269-272 (1953); *The Economic Consequences of Atomic Attack*, 290 ANNALS 27-34 (1953).

such as improvement of fire departments and protection of water supplies may be more desirable than dispersion, which on any large scale is necessarily an extremely costly measure.[3] Even dispersion is considered by the Government as only one factor among many governing the award of rapid tax amortization certificates, emergency defense loans, defense contracts, and the like.[4] Other factors, such as the existence of pools of unemployed labor, may, in effect, cause the Government to discourage location of property outside congested areas. At any rate, there is serious reason to doubt whether the national program to achieve dispersion is having any substantial results.[5] On the other hand, we submit that an intelligent war damage insurance program could, over a period of years, achieve a marked reduction in American vulnerability with a minimum of direct Government intervention in business decisions.

I. War Damage Compensation: Past and Present

War-caused property losses were covered by compensation laws of some kind during and after World War II in France, Germany, Great Britain, Japan and the United States,[6] as well as in some of the smaller belligerents. While each of these laws had individual peculiarities, the most important fact for our purposes is that all of them were instituted either after or immediately before entrance of the nation into war. This point is significant because any possible reduction of vulnerability as a result of rate discrimination in insurance can only come about to a substantial degree if a period of years intervenes between the date the plan becomes effective and the commencement of a war. Of the plans mentioned, those of Germany and France provided for simple indemnification without any insurance feature; those of Great Britain and the United States were, however, of the pre-payment insurance type.

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3. Los Alamos Scientific Laboratory, The Effects of Atomic Weapons 376-86 (1950) contains design suggestions for new construction and for improvement of existing buildings. In addition, the Federal Civil Defense Administration has published a number of pamphlets bearing upon these questions.

4. Dispersion has been one of the factors considered since President Truman's "*Statement of Policy on Industrial Dispersion*" of August 10, 1951. See N.Y. Times, Aug. 11, 1951, p. 1, col. 5.

5. See N.Y. Times, Jan. 9, 1954, p. 19, col. 1, story headed "Industry Moving Back Into Cities." A useful history and discussion of the national dispersion program may be found in The Future of Cities and Urban Redevelopment, Part II, at 166-204 (Woodbury ed. 1953).

6. See War Damage Indemnity *passim* and Analysis Appendices A, B, C and F for details ofthe German, French, British and American laws respectively. The British laws are also discussed in 53 Monthly Labor Rev. 371-73 (1941). Their functioning is described in Lund & McDougall, *Legislative Relief for War Injuries in England*, 92 U. Pa. L. Rev. 150 (1943); and in 149 The Economist 883 (1945). Further discussion of the American laws may be found in 28 Encyclopedia Americana 677 (1950 ed.). References to the Japanese legislation have been found only in several of the reports of the United States Strategic Bombing Survey.

The United States program, instituted after the beginning of the war, also included free insurance issued retroactively for the period after Pearl Harbor.[7] The scheme was set up as an amendment to the RFC Act[8] and was administered by the War Damage Corporation, an instrument of the Federal Government. The response was excellent: over 8,000,000 policies were issued with a maximum contingent liability of $140,000,000,000. A separate plan insured $3,000,000,000 worth of money and securities. As of May 21, 1948, the operation was substantially complete with only $1,200,000 paid out for claims.

The program was implemented through a large number of private fire insurance and casualty and marine companies. These firms bore ten percent of the risk of loss on policies issued through them, and were to receive ten percent of the profits up to an aggregate of $20,000,000. As it turned out, the plan was extremely profitable—the companies earned their allowed maximum, and the Government profited to the extent of about $210,000,000, a rather unusual result for Government operations!

A number of bills to re-institute the World War II program were introduced after the outbreak of war in Korea. One of these, H.R. 9802,[9] was passed by the House, reported on favorably by the Senate Committee on Banking and Currency, but died with adjournment of the Eighty-First Congress. The intensity of the demand for the legislation at that time is revealed by the fact that H.R. 9802 came close to passage as an emergency project with only one day of hearings in each house. The subsequent stabilization of the Korean conflict in limited war form took away most of the pressure for passage, however.

In the Eighty-second Congress, several bills along the lines of H.R. 9802[10] were proposed. Under each, a War Damage Corporation was to be set up as in World War II with $100,000,000 of capital stock to be subscribed by the RFC and an advance of not more than $1,000,000,000 from the same agency.[11] The most important provision for our purposes was the following:

> Such protection shall be made available upon the payment of such premium or other charge, and subject to such terms and conditions, as the Corporation, with the approval of the President, may

7. Losses as a result of damage in the Philippines were separately handled by simple indemnification rather than on an insurance basis. The $400,000,000 appropriated by Congress was sufficient to provide only partial compensation. Only losses of tangible property were covered. See U.S. PHILIPPINE WAR DAMAGE COMM'N, FINAL & NINTH SEMI-ANN. REP. (Mar. 1951).

8. 56 STAT. 174 (1942), 15 U.S.C. §§ 601-617 (1952).

9. H.R. 9802, 81st Cong., 2d Sess. (1950).

10. S. 114, 82d Cong., 1st Sess. (1951); S. 439, 82d Cong., 1st Sess. (1951); S. 1309, 82d Cong., 1st Sess. (1951).

11. This sum of money is very small when compared to the potential damage which might be inflicted by atomic bombing. See Hirshleifer, *War Damage Insurance*, 35 REV. OF ECON. AND STAT. 144, 150 *et seq.* (1953).

> establish, but, in view of the national interest involved, the Corporation shall from time to time establish uniform rates for each type of property with respect to which such protection is made available, and, in order to establish a basis for such rates, the Corporation shall estimate, from time to time, the average risk of loss on all property of such type in the United States.[12]

The probable effect of this provision would be to rule out the possibility of geographical discrimination as such. It seems likely, however, that since the existence of different classes of insurable property is admitted and differentiation among such classes approved, some geographical distinctions (between rural and urban areas, for example) would be permitted. From the point of view of inducing a reduction in vulnerability such discrimination is obviously inadequate.

While the various proposals were before the Congress in 1951, the Budget Bureau took a position in opposition to any war damage insurance legislation. The agency suggested instead that Congress authorize the President simply to indemnify and relieve those suffering losses from enemy action up to the amount of $22,000,000,000.[13] No consideration was given by the Budget Bureau—or, for that matter, by the proponents of insurance either—to the effect which each of the alternatives proposed would have upon the nation's vulnerability to bombing. The only statement relating to the question at all was an uncontradicted remark by a Government representative: "I do not think that we could describe war damage insurance as a preventive of war damage."[14] The positively harmful effect of the Budget Bureau's proposal in discouraging prudent action designed to minimize the private and social risk was nowhere alluded to.[15]

II. Modes of Compensation Other than Risk-Differentiated Insurance

Our immediate problem is to test in terms of effect on vulnerability the leading alternatives to a system of war damage insurance with premiums based on risk. These alternatives are: (1) no insurance and no compensation for damage, (2) no insurance but indemnity for damage, and (3) insur-

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12. S. 114, 82d Cong., 1st Sess. (1951), as set forth in War Damage Corporation Act of 1951; *Hearings before a Subcommittee of the Senate Committee on Banking and Currency*, 82d Cong., 1st Sess. 3 (1951) (hereafter, "*Hearings*"). The language is reproduced directly from H.R. 9802.

13. *Hearings*, pp. 171 *et seq.*, 211 *et seq.*

14. *Id.* at 240.

15. The point was effectively raised, however, in a letter published in The New York Times of July 29, 1951, § 4, p. 8, col. 7, signed by four well-known Harvard, Yale and M.I.T. economists: Professors Mason, Samuelson, Tobin, and Kaysen. A war damage insurance program with rate discrimination according to risk was also recommended by Project East River in its General Report, (October 1952) at p. 65.

ance without discrimination or with inadequate discrimination between categories of risks.

A. *No Insurance, No Compensation*

This "solution" of the problem is of considerable interest, for, in the absence of legislation, it is the solution currently in effect. With respect to the effect on incentives, however, the current situation may more correctly be described as no insurance and uncertainty about compensation. Recent history has indicated that some compensation is likely to be made even in the absence of any pre-war promises to that effect;[16] the extent and method of such compensation are, however, quite uncertain.

The effect on incentives has been noted in order to distinguish the present situation from an openly announced policy *not* to compensate for war damage. Such an announcement would influence people's decisions in much the same way as an appropriate insurance program. That is to say, property-owners would be under an inducement to move to safer locations, to strengthen the buildings they own, to demand improved community fire-protection measures, and so forth. A claim of superiority for an insurance program in this respect might be based on the psychological argument that the relatively certain though smaller insurance differentials would have a greater effect on people's decisions than the uncertain though large safety differentials in the absence of insurance. In any event, the really great weakness of the no-compensation solution is that nothing would be done to remedy the fortuitous distribution of losses. A loss resulting from national policy and interests would be borne not by the nation, but by those unfortunates whose property happened to lie in a bombed area. Strong considerations of equity would seem to require some redistribution of the nation's surviving wealth to remedy such a disproportionate injury.

B. *Compensation Without Insurance*

If the solution of no insurance and no compensation is rejected, it is natural to turn to the next simplest measure: indemnity without insurance. This "natural solution" tends to appeal to those concerned with the problem of equity and dubious about the wisdom of committing the Government to a large insurance program; it also appeals to insurance specialists, who, thinking along conventional lines, are appalled by both the magnitude and the incalculable nature of the risks.[17] The disadvantage here, as has already

16. See note 7 *supra*.

17. See, for example, a pamphlet by Sir W.P. Elderton, THE IMPOSSIBILITY OF WAR RISK INSURANCE (Cambridge, 1938). The point frequently missed here is that, while conventional insurance is certainly out of the question, there is no reason why the basic principles of insurance (conversion, by pooling, of large but relatively uncertain individual risks

been indicated, is that no incentive is offered for private owners of property to reduce their risks. Actually, this is rather too strong a statement: the inevitable delays and difficulties associated with compensation, as well as a possible element of personal risk, should provide some pressure toward reduction of vulnerability. Nevertheless, this factor operates in spite of rather than because of the expectation of compensation—other things being equal, blanket compensation tends to confirm an unsatisfactory status quo with respect to bomb vulnerability. Still worse is the fact that the expectation of compensation may lead to the abandonment of such protective measures as are now in effect, for expenditures for protective measures may not seem warranted if compensation will be granted for losses anyway.

C. *Insurance Without Discrimination*

Only brief mention, perhaps, need be made of proposals to set up a system of prepayment insurance without discrimination as to classes of risk. Aside from the not especially relevant effect of providing some revenue for the Government, this proposal is in its economic effects basically like the proposal to indemnify without insurance. Indeed, the latter may be thought of as universal free insurance. In the absence of discrimination, the payment of premiums does not encourage adoption of those protective measures which would make one a good risk; it merely provides an insurance bargain for poor risks. The latter point leads to the phenomenon known in insurance jargon as adverse selection—the tendency of poor risks to take out insurance and good risks to remain uncovered—which always appears to the extent that rates do not properly reflect risks. If an insurance program without discrimination were put into effect on a voluntary basis, there would probably be a great tendency for good risks to stay out and for poor risks to come in under the shelter of the program *as an alternative* to undertaking the protective measures the social interest would indicate are desirable.

The war damage insurance program in effect in this country in World War II fell somewhere between the categories of insurance with and insurance without discrimination. There was in fact some differentiation as between dwellings, farm properties and manufacturing plants. Within the latter category rates varied with construction, occupancy and the proportion of risk assumed by the policy-holder.[18] There was, however, no geographical discrimination, and as a result adverse selection was most conspicuous in

into relatively certain but smaller losses) cannot be applied to the problem. While a private insurance company is in danger of being bankrupted, the national Government—by its power to tax and to create money—can always call into existence assets to meet its liabilities.

18. 28 ENCYCLOPEDIA AMERICANA, *op. cit. supra* note 6 at 678.

the regional distribution of policy-holders.[19] The same phenomenon is apt to occur if current proposals are enacted into law, since they apparently envisage a rate schedule similar to that employed in World War II.[20]

III. A War Damage Insurance Program

The alternatives to a system of war damage insurance with rates differentiated according to risk having been examined, we now turn to a more detailed study of the various problems which may arise in an attempt to introduce an insurance program which would provide a method of equitably compensating those suffering losses due to enemy action, while encouraging private pre-war actions reducing the over-all national risk.

A. *Organization and Administration*

The potential magnitude of the losses faced by a war damage insurance program is obviously so great that only the general credit of the nation itself will suffice to meet it. A government corporation seems the convenient solution for various reasons, perhaps the most important being its comparative insulation from day to day political pressures, but it must be made clear that the Government stands behind the necessarily limited funds of any such corporation. It may be suitable for purposes of administration to allow private insurance companies to handle the accounts as they did in World War II, or it may be preferable to permit them to issue the policies and reinsure with the Government. No particular legal and administrative form is essential so long as potential policy-holders are assured that their possible losses are a claim upon the total resources of the nation to the extent that these survive.

B. *Participation*

In principle it would be desirable to extend coverage to all types of property, real and personal, tangible and intangible (as well as to personal life and limb, which we are not considering here). It would probably be expedient, as it was in World War II, to separate the program for insuring tangible property from that which covers money, securities and other claims and titles, but this poses no particular difficulty. A rather difficult problem

19. See War Damage Indemnity 16-17.

20. See text at note 12 *supra*. There are a number of possible alternatives which we have not so far mentioned, but which might to some extent have the favorable effect on vulnerability we seek. Among these are: (1) a pre-war tax on properties differentiated according to risk—if combined with compensation, this is a compulsory insurance program. (2) Neither a tax nor insurance premiums, but instead an announced policy of differential compensation—*i.e.*, a higher proportion of loss to be made good for relatively safe than for relatively risky properties. These have not been considered in the text because they seemed on the whole less feasible than the plans described.

does arise, however, in attempting to insure against the economic consequences of damage to property. For example, land may not be destroyed in any legally meaningful sense, but its economic value to the owner may be wiped out with the destruction of buildings on or around it. Similarly, while the value of a shop-owner's destroyed inventory might be readily made good by insurance, this may come nowhere near replacing the income value of his business, which may no longer be reproducible. Finally, similar economic damage will obviously be suffered by those remote from the bombed area to the extent that customers and suppliers are destroyed. There seems to be no practical way of making good economic damage which is incommensurate with physical losses, and to this extent neither an insurance program nor, for that matter, any compensation proposal can be entirely effective.[21]

An important question which arises in discussions of war damage insurance is whether participation should be voluntary or compulsory. In favor of a compulsory program it can be argued that adverse selection of risks would be precluded, that the peacetime flow of revenue and the potential liability would not fluctuate with the average degree of optimism or pessimism as to the chances of war, and that the impact of the premium cost differentials upon decision-making would be certain rather than merely inferential. Perhaps most important of all is the contention that under voluntary insurance something would probably still have to be done to compensate the improvidents who did not insure, and this would seriously weaken the incentive both to insure and to reduce vulnerability. It can be said in favor of voluntary insurance that compulsion is undesirable in principle, but the chief argument is that compulsory insurance would simply amount to a tax on all property, with the result that the political pressures against appropriate differentiation of rates might then be overwhelming. Even when the insurance can be presented as a voluntary business proposition, political obstacles in the way of adequate differentiation will be severe. Although admitting the deficiencies mentioned above, the author inclines to a voluntary plan for this reason.

C. *Rates*

To achieve the results desired, both the over-all level of rates and the pattern of differentials as among rates should correspond to the best estimates of the risk. As we know, the principle of differentiation has apparently

21. A partial solution may be to allow people to insure others' property in their own favor to the extent of their economic interest therein. Thus a land-owner might insure another's building on his property to protect his rents. Where the connections are less obvious and more diffuse, however, this would not seem practical.

been accepted in Congressional discussions except with respect to geography. A politically and administratively convenient device for importing geographic differentials into the rate structure would seem to be the National Board of Fire Underwriters' schedule for setting basic rates for different cities and towns in connection with fire insurance.[22] Since fire is admittedly one of the major elements in the over-all risk, it would seem most reasonable to base differential rates as a first approximation upon generally accepted fire insurance rates. The bombing hazard factor would of course have to be brought in as a modification, probably calculated according to some general formula relating bombing risk to population and economic importance (as measured, perhaps, by value added in manufacturing). The principle of geographic discrimination being accepted, specific rates should then be assigned to take into account location inside or outside congested areas, proximity to important industrial establishments, and so forth. Differentiation according to construction, fire prevention measures and provision of shelters should of course also be inserted into the rate structure.

As a first approximation at least, it seems reasonable and convenient to have the average premium set so as to make the aggregate annual inflowing revenue equal the losses expected multiplied by an estimate of the probability of war. Putting this another way, the annual premium as a proportion of value should equal the expected proportion of value destroyed times the probability of war. Thus, if the expected proportionate destruction of covered property in the event of war were 10%, and the annual risk of war were 15%, the average annual premium would be 1.5%. For exceptionally vulnerable properties in prime target areas, the premium might approach the maximum of 15%, while exceptionally safe properties might be insured at practically no charge.

The over-all average level of rates raises an especially difficult problem in that it should clearly vary with the probability of war. If war is very likely in the near future, high premiums are desirable in order to make the differentials large enough in absolute magnitude to apply a great deal of pressure toward reduction of vulnerability; if, on the other hand, the risk of war is smaller, the need to reduce vulnerability is less urgent, and the average premium can be lower. Needless to say, the estimate of such a contingency as the probability of war would be only informed guesswork and could not be justified on any scientific grounds; such a judgment is implicit, however, in any decision taken on the subject of national defense.[23]

22. See RIEGEL & MILLER, INSURANCE PRINCIPLES & PRACTICES 483 (3d ed. 1947).
23. Of course, a complication which should be considered is that most decisions on national defense in themselves affect the chances of war; the latter cannot be taken as simply fixed. Nevertheless, the basic argument that all rational decisions bearing on defense must take the probability of war into account continues to apply.

D. *Reserves*

The enormous coverage and premium revenue involved in the plan make any decision about reserves important for the national economy.[24] The first point to bear in mind is that a reserve fund is not obligatory. A private company having an excess of income over outgo in an early period and the reverse for a later period would have to set up a reserve fund, but an instrument of the Federal Government need not. The powers to tax and to create money are sufficient to assure that the national Government can create enough assets to meet its liabilities and avoid bankruptcy.

Whether or not it is expedient to set up a reserve is a different question. A reserve fund might possibly, even if irrationally, increase confidence and therefore participation in the program. On the other hand, serious political objections can be raised against the enormous accumulation of properties and titles in the central Government that maintenance of a reserve would necessitate. On the economic level, it should be noted that to the extent that a reserve existed, it would provide a means of compensation not requiring recourse to inflationary creation of credit. Also to be considered is the fact that the creation of a reserve, which involves a flow of income into Government accounts not balanced in peacetime by increases in expenditures or reductions in taxes, would tend to have an anti-inflationary effect, desirable in boom times but undesirable in depressed periods. The opposite would apply for an explicit no-reserve policy, which would reduce taxes or increase expenditures to match the premium flow. Perhaps the best solution would be to have a varying policy of accumulating a reserve or not as dictated by fiscal convenience, so that over the years a partial rather than full reserve would be established. Even were a full-reserve policy adopted, of course, the actual reserve would necessarily be partial through the early years of the program; conversely, after having once accumulated a full reserve, it would not be desirable to use the premium income still coming in for unnecessary further accumulation. The income would consequently have to be spent or taxes accordingly reduced because the cessation of premium payments would undermine the incentive system and hence be most inadvisable.

E. *Compensation*

It seems reasonable to assume as a principle that compensation of those fully covered by insurance should be such as to leave them no worse off,

24. The author has indicated elsewhere that full potential coverage may be about $800 billions, with annual premium income at $7.2 billions. The latter figure is based upon 100% participation, an assumed 10% damage level, 10% risk of war, and compensation at the rate of 90% of value. See Hirshleifer, *supra* note 11, at 150.

relative to the nation at large, than they were before the bombing. This is an assumption of some importance, because it implies that compensation should be somewhat less than one hundred percent; thus, if the real value of the nation's aggregate wealth has been reduced by ten percent, compensation would by this principle be at the rate of ninety percent. The effect of this is to bring the policy-holders' loss down to the national average, whereas full compensation in real terms would actually make the policy-holder who suffers a loss better off relative to the remainder of citizens than he was before the bombing. The force of this argument can be appreciated by considering the extreme case in which fifty percent of all property in the nation is destroyed. Full compensation of the owners of the destroyed property could only be achieved by complete expropriation of the owners of the remaining fifty percent, whether insured or not.

While the above discussion has been directed towards avoiding the possibility of excessive compensation for those suffering damage, the major problem is likely to be inadequate rather than excessive compensation, at least in real terms. There is, first of all, the difficulty already mentioned that certain intangible losses can probably not be covered at all by insurance. Another difficulty is that the post-bombing situation may be such as to cause complete or partial default or serious delay in compensation payments.

Default may occur for political reasons. In the worst case, the Government may collapse or become ineffective through sheer destruction, social revolution or enemy occupation. In any such case, property rights of all types will be destroyed or subordinated to other forces, so in a sense the sufferer by default may be no worse off than the others in his economic category. In another sense, however, he will have lost by paying out premiums unnecessarily. Complete or partial default may also come about under less extreme conditions if political forces opposed to repayment gain predominant power after the bombing.

More likely than default is delay. This may occur simply because no one can devote the time in a post-bombing emergency period to examining compensation claims, or it may come about because compensation payments are thought to interfere with anti-inflation policy or with concentration of resources upon essential or military lines of production. Payment of interest upon delayed compensation would mitigate this difficulty to some extent.

Perhaps the greatest danger of all is that part of the value of the compensation payment will be wiped out by inflation. If claims were simply paid off in money terms, the resulting injection of credit into the economic system would probably be so great that the payees could not come near realizing the nominal value given them. The loss in value could occur as a result either of a rise in prices or, if price controls were operative, of goods becoming unavailable at the going prices. In addition to the inflationary pressure created by the compensation payments themselves, there is likely to be the "normal" inflation, whether open or suppressed, associated with the methods of war finance historically used in our nation. In principle, the problem of inflation might be avoided by a capital levy upon all property surviving the bombing proportionate to the aggregate amount of damage suffered, the proceeds to be divided equitably among those bearing the immediate incidence of the damage. This procedure would involve merely a re-distribution of existing values and, ideally speaking, would neither create nor be affected by inflationary pressure. Whether such a course of action would be legally acceptable, politically expedient or administratively practicable would depend in large measure on popular reaction to the disaster.

The net effect of all these adverse possibilities, to the extent that they can be foreseen by potential policy-holders, will be to weaken rather seriously the incentive to take out insurance, but the author believes that considerable incentive to insure will remain. The impossibility of protection against all contingencies has not seriously deterred insurance in the past.

IV. Conclusion

The final decision upon the adoption of a program of war damage insurance with rate discrimination based on risks should depend upon a consideration of its equity, effectiveness and feasibility, all considered in relation to the alternatives.

On grounds of equity, most will agree that plans providing for inadequate compensation or no compensation at all are unsatisfactory. Another equity question of some importance, however, concerns not the disproportionate losses suffered by uncompensated individuals, but the cost to those classes of property-owners who must pay for the right of future compensation with relatively high premium charges under a differentiation system. City-dwellers, for example, may consider it unfair that they cannot purchase insurance as cheaply as residents of rural areas since, they might reason, the risk flows purely from national rather than merely urban or rural policy and interests.

This argument has force. Nevertheless, policies seeking to avoid this inequity by providing either insurance or compensation without discrimination according to risk are, aside from their adverse effect on vulnerability, not wholly free from possible objections on grounds of equity themselves. For example, a firm which has gone to some expense in providing protective construction and fireproofing might be considered to have valid grounds for objecting if it does not receive some advantage in the way of premiums over a firm which maintains a flimsy firetrap.[25] Furthermore, it can be maintained that the Government is under no obligation to protect property values against all possible contingencies. The risk of bombing is thus treated like the many "natural" occurrences of the world—technological advancement, erosions of and accretions to land, fads and fashions, floods and storms—any or all of which may be regarded as having inequitable effects upon the distribution of wealth in the sense that they are usually independent of the actions of those whom they directly help or harm. Under this view, the fact that urban residents must pay more because they are in greater danger is lamentable but unavoidable.

An insurance program like that examined in this paper cannot be expected to have a large *immediate* effect in reducing vulnerability. Since buildings have little removal value, transfer of industrial facilities and housing from urban areas will take a considerable period of time; only an extreme financial differential could induce what would amount to abandonment of properties in one location while building anew in another. Nevertheless, risk-differentiated insurance would set up a system whereby a steady financial pressure would be brought to bear in favor of measures reducing vulnerability and against measures increasing risks. As a result, over the years a cumulatively desirable effect would be produced. There is a tremendous amount of new and replacement investment every year, decisions on which would be made under the influence of the differential premiums. Furthermore, less extreme measures like fireproofing will be encouraged even where relocation is out of the question, and the former may frequently be the more desirable in view of the dislocation and expense likely to accompany dispersion. Effectiveness, therefore, will be comparatively low in the short-run but, it is hoped, large in the long-run. The greatest benefit of the plan will come about if we are so fortunate as to avoid war for a number of years but not so fortunate as to be assured of a lasting peace. The chief threat to effectiveness is fear on the part of possible policy-holders that they will not be adequately recompensed and, on the other hand, that even those not insured will be compensated.

With respect to feasibility, a number of difficult problems (*e.g.*, participation, compensation policy) have been discussed in earlier sections. While some of these may require the adoption of various imperfections and compromises, none seems insurmountable. We have not, however, attempted to weigh the

25. Similar to this is the situation in which differential risks have been taken into account and realized in sales and purchases of property. That this has occurred to some extent is borne out by occasional stories in the press, but it seems unlikely that large changes due to bombing risks have taken place in property values.

political acceptability of the insurance plan discussed here, except for the consideration of the principle of voluntary as opposed to compulsory insurance. That there have been and will be political objections to the necessary discrimination we already know. It is to be hoped that these objections may be overcome.

In sum, war damage insurance, with rate differentiation according to the best estimates available of the risks bearing upon the insured properties, offers a promising method for encouraging private expenditures having the effect of reducing the national vulnerability to bombing, while providing a procedure for compensation of individuals suffering damage from enemy action. It should be mentioned that such a program would not in any way preclude direct Government expenditures or intervention having the effect of promoting a reduction of vulnerability (*e.g.*, subsidizing the relocation of a critical plant or industry, or requiring personnel shelters for firms receiving defense contracts), which may be highly desirable in their own right.