Final Report for the Project Car Insurance Tariffs

Part IV

Tariff models for Motor Liability Insurance and their Conformity with the Insurance Technique and with General Theories of Production and Competition

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The project undertaken by the *Bund der Versicherten* with financial support from the EU Commission aims to provide the latter with a basis for deciding possible action in the area of motor liability insurance. In particular, it explores whether it is necessary or admissible to make prescriptions regarding pan-European tariffs in order to prevent discrimination and to facilitate competition and a working single market.

This raises the question, too, whether the introduction of freedom for third-party motor insurance tariffs in 1994 was a mistake that should be made good by re-regulation, for example with EU legislation on a risk-appropriate and competition-conform tariff design.

There are three main issues in this regard:

1. Does legislation on tariff design truly intrude upon insurance companies' service activities and economic freedom, or are its effects limited to that area of insurance which – as with mutual insurance companies and under the new insurance-managing theory (see I.2, below) – is only organized by the companies but not economically produced by them?

2. Is the selection of different car-owner groups in the tariff design process a measure in the competition between insurance companies?

3. Does current European tariffs (using statistics on claims per car-owner group) comply with insurance techniques in the general insurance sector or does it curtail individual freedom and lead to objectively unjust discrimination against specific car owners or car-owner groups?

I. Two different models of insurance and tariff design

As the country reports, the speeches and discussions on two workshops summarized in the proceedings show, there are essentially two opposed tariff models, which we present together with their practical effects in the ensuing sections I. 1 and I.. 2. We answer the above questions for each model by comparing its economic, insurance technical and actuarial foundations with generally accepted theories. As the scope of the present report is insufficient to permit rigorous scientific analysis of this material, it is the proposal of the *Bund der Versicherten* (BdV):

> The EU Commission should follow up this project by submitting these crucial issues to closer scrutiny by neutral scientists (particularly economists) before deciding further action in the field of motor liability insurance.

1. The premium-insurance model ('premiums are a price' model)

This model is practised by publicly listed insurance companies in all European states.

a) Brief description

This model equates tariff designing with pricing. Regulation shall thus be generally inadmissible and intervene in the market, competition, and insurance companies' entrepreneurial freedom.

In this view, insurance must be a product of insurance companies and premiums the price they sell it for. Insurance, their product, shall consist in accepting and bearing risk. Premium revenues shall be their sales and loss payments their costs, and – this being the deciding and unique feature of our economic system: The perpetual surplus of premium revenues over administration overheads and loss payments (including different provisions and reserves) – due to the 'natural' need to overestimate in premium fixing – is considered to be the insurance companies' fortune and profit.

Under the premium-insurance model, then, company profit chiefly depends on premium calculation and by the size of loss expenditure. Loss expenditure and hence profits in turn depe72nd on tariff design and how claims are settled. Every delay in payment and reduction in amount or rejection of a claim automatically boosts companies' profits (hence the view held in countries the world over that insurance is a fine thing to have until it comes to a claim). Premium-insurance is thus – necessarily – totally focused on profit maximization, from premium calculation and tariff design right through to claims settlement.

For premium-insurers, tariff design is thus a way of controlling profits through marketing, by selection and antiselection of low-risk and high-risk groups of insureds. Tariffs are designed in such a way that drivers are classed by specific criteria and the total loss payments for each class compared with that of other groups. For example, because garage owners as a group have less loss expenditure than non-garage-owners, premium-insurers make garage ownership a tariff and selection criterion and charge higher premiums for drivers who do not have a garage (in Germany this makes a difference of about 10 per cent in the amount of the premium). A range of common characteristics – such as driver age, occupation, place of domicile, gender, nationality, and vehicle model, make and annual mileage – are used as selection criteria because groups of insureds based on such characteristics and on the innumerable permutations thereof each have a loss expenditure that differs from other groups.

b) Practical effects of the tariff design of premium insurers

The most conspicuous effects of the tariff system that prevails in Europe are as follows:

aa) Millions of claims-free drivers must pay higher premiums than millions of drivers that have a claims history.

bb) Claims-free drivers have no way of avoiding the burden of higher premiums because all insurance companies (must) apply the same selection criteria.

cc) In some countries, insurance companies refuse to cover drivers with adverse selection criteria, necessitating arrangements under which insurance companies are allocated such drivers by law.

aa) Claims-free drivers pay higher premiums than drivers with prior claims. Is this discrimination?

We will use an example from Germany to illustrate one result of tariffs applying selection criteria. Other things being equal, the approximate annual premiums for VW Golf drivers in Leipzig (former East Germany) and Goslar (former West Germany) are as follows:

	LEIPZIG		GOSLAR	
	Claims	Annual Amount Paid	Claims	Annual Amount Paid
Year 1 (230%)		€ 2,500		€ 1,650
Year 11		€ 400	Claim in Year 10	€ 350
Year 17		€ 350	Claim in Year 16	€ 350
Year 20	None	€ 305	Two Claims in Total	€ 280

As the comparison shows, a Goslar driver with two claims never pays a higher annual premium and pays less in total than a Leipzig resident over 20 years of claims-free driving.

The premium spread widens as more criteria are added. For example:

If the Goslar driver is a tenured civil servant with a new car and a garage, he will pay only € 1,250 in Year 1 (instead of the € 1,650 shown in the table), only € 250 in the Year 11 (after a claim in Year 10), still only € 250 in the Year 17 (after a second claim in Year 16), and a mere € 210 in the Year 20.

The Leipzig resident with 20 years of claims-free driving pays double the amount in Year 1 and – without making a single claim – thereafter pays at least € 100 more each year than the Goslar-based civil servant with two claims!

If we incorporate the drivers' age and number of claims-free years into the comparison, our outstanding young driver from Leipzig is charged ten times the premium paid by the Goslar civil servant with two claims.

The investigation by *Professor Meyer* (Part III of this Final Report, Section 5) has shown that there are major differences in tariff structures between European countries; in a comparison of the premiums paid by a (claims-free) student with a 54 bhp car and an annual mileage of 13,000 kilometres with those paid by a senior citizen (with the highest no-claims bonus, but possibly several claims) with a 90 bhp car and an annual mileage of 10,000 kilometres, this produces results such as the following:

In 2 countries the student pays 1.2 times the pensioner's premium (Belgium, Finland).
In 5 countries the student pays 2 times the pensioner's premium (A, CH, DK, GR, I).
In 2 countries the student pays 3 times the pensioner's premium (NL, P).
In 1 country the student pays 5 times the pensioner's premium (GB).
In 1 country the student pays 8 times the pensioner's premium (Germany).

Here is an example from the Texas Auto Insurance Manual:

> „The bodily injury (BI) insurance premium for Territory 7, Corpus Christi, is 3.25 times the premium for Territory 62, Hutchinson County (1.00). The BI premium for

a youthful, unmarried driver is 3.75 times the premium for an adult driver. Thus, the premium for a youthful, unmarried driver in Corpus Christi is 12.19 times the premium for an adult driver in Hutchinson County. The premium for a drunk driver is 60% more than a driver with no tickets or accidents. Thus, the premium for a drunk driving adult in Hutchinson County (1.60) is only 13 % of the premium for a 'clean' youthful, unmarried driver in Corpus Christi (12.19), who pays 7.62 times the premium of a drunk driver (12.19/1.60).„

Further examples of the effects of tariff structures are given in II. 4. a and in the annexed German-US study by *Hans Dieter Meyer* ('Rating and Classification in Automobile Liability Insurance').

Having shown that tariffs used by premium-insurers produce such anomalous results, we must call into question:

- Whether the use of selection criteria and bonus/malus systems produces individual risk righteousness.
- Whether increasing the number of selection criteria and the sophistication of bonus/malus systems improves the individual risk righteousness.

Year-in, year-out, millions of claims-free drivers in Europe – trusting in the righteousness of the tariffs – thus pay billions of euros more in premiums than drivers with a claims record. And the commonly cited argument that bonus/malus systems level out the disadvantage to claims-free drivers over the years is shown to be untenable by examples such as those presented above.

Professor Meyer points in his study (Part III of this Final Report)[1] to the large differences in premium spreads between European states and to the large increase in spreads following deregulation. For example, the premium spread widened in Germany from 1 : 8.5 shortly after deregulation to 1 : 31.5 in 1999. Taking bonus/malus systems into account, the premium spread in Germany becomes an enormous 1 : 273, which – theoretically – means that if an older driver with all positive selection criteria had an annual premium of € 50 (even after several claims), a young claims-free driver with all adverse criteria would have to pay an annual premium of approximately € 14,000. With numbers like this, we can rightly ask – as does *Professor Meyer* – if a young and possibly very good driver who pays the highest premium really represents an (individual) risk rated at 273 times that of a driver with the lowest-premium rating (who may nonetheless have caused a number of claims).

There are innumerable permutations of criteria. In some US states there are more such permutations than drivers. In certain European countries, too, the criteria matrix comprises millions of cells, many of which contain few or no drivers. One may well ask if these millions of different levels of individual (inherent) risk really exist for drivers within a given country or – as in the US – how come there more permutations of criteria for assessing vehicle risk than there are actual vehicles.

US insurance companies use what is known as 'redlining' to map losses to street blocks (often blocks with a predominantly coloured population). On similar lines, German insurance companies plan to calculate premiums for drivers in Berlin according to the post-code district they live in. Premium-insurers in Europe could likewise practice tariffs – regarded by the initiators and advocates of tariff freedom as 'pricing' freedom – by street

1 For further reading on the large differences in spreads between different countries (France, for example, limits spreads in certain cases by law), see Part III of this Final Report (*Professor U. Meyer*, Section 5, Figures 4 and 5).

or, as with redlining, by block (for example by redlining blocks with a predominantly foreign population).

bb) Do cartel-style selection practices curtain vehicle owners' individual freedom?

A further consequence of the European tariff-system is the compulsion for insurance companies to fall in line with the selection and antiselection practices of their rivals – for example by using garage ownership as a criterion. If one insurance company unilaterally cut premiums for garage owners by 10 per cent compared with the premiums for non-garage-owners, other companies would suffer an exodus of garage owners and be left with the non-garage-owners who, *only* as a group, incur higher loss expenditures that are no longer covered by 'group' premiums. The result would be insolvency. Thus, for good or ill, all insurance companies would have to follow suit and incorporate the new selection criterion into their tariffs.

In this way, selection produces largely uniform tariffs among insurance companies and deprives the consumer of the EU's aspired-to „varied choice of contracts„ that would „enable him to choose the contract best suited to his needs„ (Recital No. 19 and Recital No. 20 and 23 of the Third Directives). Because all insurance companies class drivers by the same criteria, a young man who is a good, claims-free driver but lives in a city, is not a civil servant, has no garage and cannot afford a new car will be rated by *all* insurance companies in a group corresponding to this combination of criteria; accordingly, he will receive as to his tariff classification (cartel-style) similar offers from all insurance companies in the country where he lives. The lower premiums – e.g. for older civil servants with a different place of residence, a new car and a garage – are unavailable to him because of the criteria that apply in his case. Despite his claims-free record, he cannot even obtain the lower premiums offered, for example, to older drivers with several prior claims.

Tariff freedom, which the EU hoped would produce greater consumer choice, has had the opposite effect. The spread of cartel-style selection with a proliferation of criteria and permutations of criteria has reduced the available choice for individuals seeking compulsory insurance cover to a diminishingly tiny segment – either to their advantage (for bad drivers placed in a group with low loss expenditure) or to their disadvantage (for good drivers placed in a group with high loss expenditure, as is the case with young people).[2]

As all insurance companies place all drivers, cartel-style, by the same criteria in the same premium classes, more or better information on tariff design – as some demand – would be of little help to the insured. A young city-dweller not employed in the civil service, lacking a garage and unable to afford a new car stands to gain absolutely nothing from the knowledge that his premiums will be only half as high when he is older, moves to the countryside, becomes a civil servant, builds a garage and buys a new car.

2 Is it freedom of choice when a driver goes from company to company, is told everywhere he goes that only one specific tariff class comes into question in his case (based on region, vehicle model, civil servant status, age, etc.), so that his sole means of saving on insurance is to find the cheapest provider for this particular combination of criteria without being able to judge who is the best and cheapest provider in terms of service performance?

cc) Insurance availability problems for vehicle owners with adverse selection criteria

In some countries, drivers with 'adverse' selection criteria cannot obtain on the (allegedly) free market the insurance they are required to have by law. There is legislation under which such drivers are assigned to insurance companies (for example in France by the *Bureau Central de Tarification* and in the US under *assigned risks plans*), and the companies are then obliged to offer them cover, but do so only for exorbitant premiums. This is why millions of (mostly coloured) vehicle-owners drive without insurance in the US. These people would likewise not benefit from more or better information about tariffs.

dd) Arbitrary discounts and tie-ins at the expense of the compulsorily insured community

Germany's Federal Insurance Supervisory Office (BAV) has already had to intervene with regard to arbitrary discounts – not based on existing tariffs – granted by insurance companies to keep or acquire customers. Also, motor insurance is often coupled with other (profitable, high-commission) insurance or assurance policies, giving the customers a lower risk classification for their motor insurance as an incentive to sign.[3] We need not explain in greater detail that such cross-subsidization practices come at the expense of the community of the compulsorily insured car owners.

2. The insurance-managing model (separating insurance and services)

As shown in the annexed country reports, this model is widely practised in Japan and Islamic states as well as by mutual insurance companies all over the world.

There were plans to introduce motor liability insurance based on the insurance-managing model in South Carolina (Full Insurance Availability, Report of the Federal Insurance Administration, September 1974):

> „The Federal Insurance Administration has worked on model legislation in 1974 which would have separated the premium into a price for company services (which would have been competitively established) and into a contribution for loss pooling (which would have been established by the State Rating Bureau for all insurers). It failed in the legislature.„

One indication of possible causes for the bill's failing in the legislature is the statement of Senator Metzenbaum at a Senate hearing on motor liability insurance tariffs:

> „As a young man in the Ohio legislature, I attempted to put teeth in the Ohio insurance law, but that was 'love's labor lost'. The insurance lobby was in control. The fact is that neither the insurance commissioner nor the legislature ever really made the regulations. They do what the industry tells them to do.„

3 BAV press release of 12 January 2001: „The Insurance Supervisory Office has observed an increase in complaints from insured individuals who have been offered and sold accident insurance or life assurance on taking out motor vehicle liability cover. In some cases, this was coupled with promises of a better no-claims bonus classification.„

The insurance-managing model was to be introduced in Germany in 1997 (*Bundestagsdrucksache* 13/8163 of 2 July 1997, *Entwurf eines Gesetzes zur Reform des Versicherungsvertragsgesetzes* [Bill Amending the Insurance Policies Act]). The bill was not voted on, however, because of the change in government after the 1998 election.

a) Brief description

The insurance-managing model is based on the premise that designing tariffs is not entrepreneurial 'pricing' but affects the distribution of policyholders' contributions, which has to do neither with markets, competition or production nor, consequently, with the entrepreneurial freedom of insurance companies. Under the insurance-managing model, tariff design is a service that insurance companies perform for policyholders. It comprises calculating the total financial contribution required from all policyholders applying risk criteria according to the insurance-technical equivalence principle to allocate the contribution need among the policyholders in a way that reflects as closely as possible the individual risk of each one. In this view, insurance is an activity performed by policyholders, namely the provision of money to eliminate financial risks. The activities and profit-making of insurance companies is restricted to services enabling the provision of insurance by the insured (just as banks organize cheque payments and giro transfers but do not – as a service – pay their account holders' bills).

Instead of a premium, policyholders pay:

- An insurance contribution (to be used to settle claims),
- A price for company services (rendered by insurance companies for calculating and collecting contributions and for reallocating them to settle claims).

The turnover does not refer to premium income, but to the price of company services. In the insurance-managing model, money loss payments are not costs, but represents policyholders' reallocated contributions, which are managed on a fiduciary basis as a special fund. The surpluses that regularly arise due to the safety margins calculated into the contributions are not company profits. Accordingly, the insurance service companies have no (profit) interest in surpluses from the insurance pool. Motor liability insurance thus operates in Japan according to the 'no loss, no profit' rule, and contributions are set in the interest of car owners by the Automobile Insurance Rating Organisation of Japan (AIRO). In Islamic countries, insurance is regarded as a form of gambling, and hence it is illegal to make a profit. Islamic law solely allows insurance cooperatives in which the insurance company is (only) a manager who administers contributions and acts as a trustee to a mutual insurance fund. Insurance contributions and tariff criteria are set by decree of the minister for the economy.

The calculation of contributions, tariff designing and claims settlement are nothing other than services that insurance companies owe and perform in the interests and on behalf of those – the insureds – who gave them the order to do so. Accordingly, insurance, being the provision of money to settle claims, is not an entrepreneurial endeavour, not a product or a service. The only services involved are those that insurance companies perform within the process of providing and distributing money – just as paying bills is neither an entrepreneurial endeavour nor a product or service on the part of a bank.

The sole profit-making area for companies that offer insurance under the insurance-managing model is their services. Thus, the only control such companies have over their

profits is through the way in which they perform their work (!) of organizing the insured community – the work of calculating contributions and designing tariffs, of collecting, reallocating and investing the contributions, etc.

b) Practical effects of the tariff design of the insurance-managing model

The practical effects of the tariff design under the insurance-managing model can only be identified for countries where this model and such tariffs are mandated by law at least for motor liability insurance. In other countries (where tariff freedom prevails), the selection practices of insurance companies prevent implementation of this model with a tariff design in the interests of car owners for the reasons described earlier. Even mutual insurance companies, which work on a not-for-profit basis along the lines of the insurance-managing model, must adopt the profit-oriented tariff designing with the full range of selection criteria in order to gain customers and not to lose them (though, paradoxically, it was the mutual insurance companies whose regional and professional ties more-or-less coincidentally or unintentionally triggered a form of selection with regional and occupational low-claims groups such as drivers in rural areas and members of the civil service and thus forced the publicly listed premium insurers to adopt regional and occupational risk classification criteria).

The insurance-managing model, under which there are no profits to be made from the insurance area, thus only works in countries with uniform laws on contribution fixing and classification that apply to all insurance companies.

The selection of car owner groups in motor liability insurance – which makes no sense for insurance companies that make no profit from the insurance area in any case – is thus made impossible.

Statutory classification consequently requires fewer risk criteria, and usually these few are at least indirectly related to the likelihood of causing a motor liability claim. As a result, Japan and the Islamic countries have only a few (about 20 to 30) vehicle and regional groups without bonus/malus systems. Contributions are uniform for uniform tariff classes, with far narrower spreads than in countries where there is tariff freedom.

Mandated risk criteria, the management of contributions in funds or pools and the ‘no loss, no profit’ rule mean all drivers can obtain the insurance they are required to take out by law, as the insurance service companies have no profit-driven interest in the claims history of individuals or groups of insureds.

II. Comparison of the two insurance and tariff models with generally accepted theories of insurance, production and competition, and with standard insurance techniques (the actuarial equivalence principle)

Even without further discussion, the question of whether tariffs or tariff structures may be mandated nationally or across Europe is far easier to decide and answer in the affirmative for the insurance-managing model than for the premium-insurance model.

The decision as to intervention in tariff design thus essentially comes down to an overall assessment of the two models with their very different underlying premises, and hence to these questions:

1. What is *insurance*?

2. Is insurance a *product* or a *service* provided by companies or is it merely the – non-productive – provision of money by policyholders for – non-productive – redistribution of 'income' among the insured community? Does the designing of tariffs relate to the pricing of *business services* or solely to the insurance contributions that policyholders pay in accordance with their (individual) risk and are distributed by a service company?

3. Can insurance (service) companies influence the total need of (pure) insurance contributions and the claims expenditure of a community of compulsorily insureds by means of *competition* – that is, by means that fall within the area of their production/service activities?

4. Does the equal allocation of loss expenditure to all policyholders in a given class without considering individual risk differences accord with the general *insurance technique of tariff designing* and in particular with the insurance technical equivalence principle and, in the case of compulsory insurance, the constitutional equality rule?

To answer these questions, we will next compare the two models and investigate their conformity with theories of production and competition and with tariff design practice in the general insurance sector.

1. What is insurance as defined in the two models?

So as not to overburden this section of the report, a summary of opinions and quotations is annexed under the heading 'Economic Aspects of Insurance and the Legal Nature of the Insurance Contract'.

World-wide, there is no generally applicable definition of insurance in the sense dealt with here. Instead, there is a wide variety of concepts of insurance, each of which define it in the way required to explain a specific issue.[4]

a) The nature of insurance under the premium-insurance model

Premium-insurers must define insurance such that the definition explains their practices and delivers justification for treating surplus premiums as profit. They regard insurance as a product – that is, as something they produce economically – that consists in the acceptance and carrying of risks (for reward).

4 For Germany: *H. D. Meyer*, ZRP (*Zeitschrift für Rechtspolitik, Journal for Law Policy*) 1990, 424; *H. D. Meyer* in *Versicherungswissenschaftliche Studien (VersWissStud)*, Vol. 6, 1997, p. 69 et seq. (with additional references); *Farny* in *Handwörterbuch der Versicherung (HdV)*, 1988, p. 867; *Pohlhausen*, *Vom Wesen des Versicherungswesens und vom Klimawechsel in der Versicherungswissenschaft*, in *Neue Wege des Versicherungsmanagements*, in *Festschrift für Günter Schmidt*, Karlsruhe 1997. For Switzerland: *Alfred Maurer*, *Schweizerisches Privatversicherungsrecht*, 3rd Ed., Bern 1995, p. 212. For Austria: *Martin Schauer*, *Das österreichische Versicherungsvertragsrecht*, 3rd Ed., Vienna 1995, p. 43. For France: *Yvonne Lambert-Faivre*, *Droit des assurances*, 9th Ed., Paris 1991, p. 186, marginal note no. 211. For Spain: *Fernando Sanchez Calero* in *Comentarios al Codigo de Comercio*, Tomo XXIV, *Ley de Contrato de Seguros*, Vol. 1-3, Madrid 1990, Art. 1, p. 24).

Premium-insurers define insurance – as their product – as follows:

> „Insurance is the coverage of a financial need, specific details of which are unknown and whose total amount is estimated, on the basis of a risk compensation within a collective.„[5]

This vague definition leaves open *who* covers the 'financial need'. As it is usually producers who meet the needs of consumers, the definition implies that the need for money to settle claims is met by the premium-insurers.

b) The nature of insurance under the insurance-managing model

The insurance-managing model is based on the premise that insurance is an activity performed by policyholders; accordingly, it is defined as follows:

> Insurance is the *elimination* of uncertain financial risks through the *collective* provision of a monetary amount estimated by the law of large numbers to make good the financial losses of individual members of the collective.

This definition accords with that of Alfred Manes, who defined insurance as follows in his thesis 'Insurance: Principles and History'[6]:

> „The essence of insurance lies in the *elimination* of the uncertain risk of loss for the individual through the combination of a large number of similarly exposed *individuals who each contribute to a common fund* of premium payments sufficient to make good the loss caused any one individual.„

c) Investigation of the definitions of insurance for conformity with general insurance theory

There are no generally accepted theories of insurance against which we could establish the accuracy of the contrasting definitions.

The premium-insurers' definition merely – and self-servingly[7] – explains how they practise insurance; it does not go to the root of the matter and, above all, fails to respect the nature of insurance in the sense of making something 'certain' or 'secure'. In premium-insurance, even after an insurance company has accepted a risk, a degree of risk allegedly remains to be carried by the company – however impossible it may be to reconcile this with the insurance idea – and for carrying this risk the company demands premiums by way of a price and lays claim to surplus premiums as its profit.

Then, however, we must ask just how certain and secure is premium-insurance when the assets accumulated from premiums are insufficient to meet the cost of claims and the capital actually paid in by shareholders only negligibly increases the amount of these assets (usually by about 0.5 per cent). How certain and secure is insurance when all

5 *Farny* in *Handwörterbuch der Versicherung (HdV)*, 1988, p. 870.
6 *Manes* in *Encyclopedia of the Social Sciences*, Vol. 8, 1935, p. 95.
7 *Pohlhausen* (loc. cit., p. 106) rightly criticizes authors who elaborate concepts in this manner. The issue then centres no longer on truth, but on presenting suitable answers within the framework of prevailing dogma.

reported claims exceed net assets by 1 or 5 or 10 per cent? - If this situation were to arise, the claims of many policyholders would go unsettled. For the premium-insurers to respond that contingency loadings, coinsurance and reinsurance reduce or eliminate this danger would be self-destructive, since insurance and a right to profits for carrying risk are mutually irreconcilable: if insurance makes certain and secure, then there is no risk, and no right to profits for risking shareholders' capital (which, moreover, consists more often than not of premium surpluses that have been converted into 'own funds').[8] Insurance and continued risk – however and wherever – cannot be mutually reconciled.

By their genetic method of investigation going into the origins of insurance[9], advocates of the managing-insurance theory view insurance as an activity of policyholders bringing about the 'certain' elimination of financial risks by means of appropriately (over-)calculated contributions. The very act of providing money is thus 'insurance', and the distribution of this money comes later as a service by insurance (service) companies. This view is confirmed by numerous academics and by the treatment of insurance companies in the national accounts of all countries of this world:[10]

> „Due to the special importance of *insurance companies* in the *redistribution of income* and assets and as providers of capital, this sector has long appeared separately in the National Accounts. Wherever possible, the Federal Statistical Office has adopted the *internationally recommended definitions and divisions*.
>
> The most important and characteristic income and cost items of insurance companies are premium income and payments under insurance policies. These transactions give rise to particular difficulties in the National Accounts, specifically in calculating the productive output of insurance companies and their share in income distribution, redistribution and capital formation. In the case of premium income, the difficulties relate to the fact that premiums not only constitute payment for the services of insurance companies, but in most cases simultaneously include policyholders' individual contributions to cover losses and – in the case of life assurance – individual savings instalments which the insurance company manages until maturity and in respect of which it serves as a capital investment company. *The service component is the actual payment for the insurance company's services* and is incorporated as such in calculating its gross productive output. The *risk component* is there to cover losses and insurance claims and is a *redistributive component*.„

The concept of insurance in the form of a product consisting of risk acceptance or risk-bearing is thus alien to the national accounts of countries the world over.

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8 Risk-carrying as a 'service' and profit-making in premium-insurance additionally produce the curious result that those companies which take on the least risk (and so 'perform' the least) reap the highest profits from their over-calculated premiums.

9 As *Savigny* demands in his famous manifesto *Of the Vocation of Our Age for Legislation and Jurisprudence* (1814), New York, Arno Press 1975, we should follow every matter to its roots and so discover its organic principles.

10 German Federal Statistics Office*, Die Versicherungsunternehmen in den Volkswirtschaftlichen Gesamtrechnungen, Wirtschaft und Statistik*, 1970, Heft 7, 331-337; see *H. D. Meyer* in *Versicherungswissenschaftliche Studien*, Vol. 2, p. 203, 206 et seq. (with additional references); *H. D. Meyer* in *Versicherungswissenschaftliche Studien*, Vol. 6, p. 69 et seq.):

2. Production processes under the two models

In order to shed light on the issues surrounding possible legislation on tariffs in motor liability insurance, we first need to characterize the true economic core of the insurance contract. (Note, again, that a compilation of opinions and quotations is annexed for further information under the heading „Economic Aspects of Insurance and the Legal Nature of the Insurance Contract„.)

a) Production processes under the premium-insurance model

Premium-insurers and their scientists attempt to apply general production theory to the 'production' of insurance and have developed a – practice and system-focused – concept of insurance production. Insurance, the product, is said to arise out of the employment and combination of production factors (in particular money for the settlement of claims). Signed policies are equated with 'outlet', premiums with 'prices' and 'turnover', and loss payments with 'costs'. Under this production theory, the perpetual surpluses on premiums are enterprise assets or 'profit'.

It remains unclear to this day whether the results of the so-called production of insurance is an (intangible) product or a service.

b) Production processes under the insurance-managing model

The insurance-managing model is based on an genetic investigation from first principles yielding the 'economic' conclusion that insurance is not a production process but a non-productive provision and distribution of funds. It follows that there are two areas of activity which must be kept separate:

- Insurance area, comprising the provision of funds, tariff design and funds distribution, which thus does not create added value and so has nothing to do with production.
- Service area, in which insurance service companies offer and provide their services at a price – services such as organizing the insured community, calculating contributions and designing tariffs, and collecting, reallocating and investing the contributions.

For the provision of money to eliminate financial risks, the 'insurance manager' forms collectives of policyholders and calculates insurance contributions according to the law of large numbers (and with contingency loadings) so that the total contributions plus the provisions and reserves from surplus contributions (plus co- and reinsurance activities) cover all claims even at times of extreme loss occurence.

The organization of insurance in this way corresponds exactly to the manner in which insurance (service) companies are dealt with in all countries' national accounts. The companies manage contributions, surpluses and revenue on a fiduciary basis as a special fund belonging to the insured, competing and earning profit on the price and quality of their services.

c) Investigation of production processes under the two models for conformity with general production theory

There is a broader and a narrower meaning to the word 'product'. Services are a product in the broader sense, while goods are a product in the narrower sense. Products come into being by the combination of 'factors of production' (labour, materials, machinery and equipment, etc.) procured by a production enterprise.

Products in the narrower sense differ from services (products in the broader sense) in that the producer owns the factors of production, usually by virtue of having purchased them, whereas services involve 'object' or 'reference' factors (shirts at a dry cleaners, letters at a post office, etc.) that are provided as a medium for services to work at and must always remain the property of another or at least – applying the constitutional concept of property – another must retain title to them (as with money or the account at a bank)[11] in order for a service to be rendered for a third party.

aa) Premium-insurers are not production enterprises

Analysis of the insurance process along these lines shows that premium-insurers are not production enterprises in the narrower sense of the word.

Insurance is the coverage for a financial need to eliminate financial risks in a collective. To this extent, the above definitions of premium-insurance and the insurance-managing model overlap. There is a fundamental difference, however, in that the definition of the insurance-managing model makes clear that the money is provided *collectively* by the insured. In their definition, on the other hand, premium-insurers fail to explain where the money comes from with which they allegedly cover the 'financial need' to achieve a 'risk compensation within a collective'. Money cannot be produced. A productive activity whose output is money does not exist.

Nor do premium-insurers purchase the money to collectively compensate risk, since they take in premiums as their 'price'.

Claims are not settled by processing (the insurance companies' own) money or by combining it with other factors of production. Accordingly, such payments do not incur a cost (under factor depletion) for insurance companies, but – as the national accounts show – are a non-productive redistribution of income.

bb) Premium-insurers are not service enterprises

Similarly, what premium-insurers do cannot be described as a service because their activity of combining factors of production lacks an essential ingredient: a medium or 'object/reference' factor which is the property of a third party and at which they might provide the service. Premium-insurers collect money from policyholders and redistribute this money. But since they regard premiums as a price which allegedly passes into their unencumbered property[12] and to which policyholders do not even retain a title, the 'object' factor necessary for production of an insurance 'service' is lacking; instead, the insurance companies lump together their internally calculated service price with the 'object factor' of their service-producing activity (that is, money with money).

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11 *Krycha* in *Kleines Betriebswirtschaftlehre-Lexikon*, 2. Ed., 1986, p. 63 and 157: „According to *Werner Kern*, obejct factors are factors needed for production that do not lead to factor depletion and hence do not incur a cost, but determine the pattern in which other factors are deployed and that in which the products are produced. Object factors of production and service enterprises have in common the fact that they remain the property of a third party.„

12 This assumption contrasts with the way in which premium income is dealt with in the national accounts of countries the world over. By the internationally recommended definition (see p. 14 et seq. above), the risk and savings components of premiums and the interest earned on them is treated as 'capital contributions' by policyholders, and policyholders (households) as their owners in the constitutional sense of the word (creditors).

A premium-insurer only becomes a service company when it splits the premium into two parts:

- A service price, to be accounted for as 'turnover' for services involving third-party monies.
- The insurance contribution itself, to be accounted for as an 'object' factor used in production of the service and hence not as an item on the profit-and-loss account, but in a special fund managed on a fiduciary basis.[13]

Let us step back at this point and note the following: If premiums, and in particular the pure risk element they contain, are not a price or price component, then tariffs – governing how the sum of all contributions required for a given insured community is allocated among individual policyholders – have nothing to do with pricing, and it is not possible to argue that intervention in premium-setting is the same as intervention in pricing.

If designing tariffs can only be carried out as a service (with the policyholders as customers), stipulations in the interests of policyholders (like instructions from a customer using any other service) do not constitute intervention in the entrepreneurial freedom of the service company because they do not relate to its real service-producing activity.

cc) The business of premium-insurers consists of entering into (aleatory) compensatory transactions

Close scrutiny discloses great confusion regarding concepts of premium-insurance. By virtue of its century-old history and through state supervision, legislation, case law and academic appraisal, premium-insurance has acquired a certain respectability, even to the point of being considered a contract in which premiums are exchanged for the acceptance of risk, whilst almost everyone seems to assume that by accepting and carrying risk, premium-insurers somehow 'produce' insurance cover and 'sell' it for premiums.

There is, moreover, an astounding degree of consensus among all concerned regarding a number of what are in reality irreconcilable contradictions – contradictions that those concerned fail to see to this day. We will present just four such contradictions below.

The following thus appears in an annual report of the German Insurance Association:

> „*Professor Braess* convincingly shows in his opinion that in respect of required premiums, the insurance sector has only a *distributive function without performing activities that have an impact on price*. This is demonstrated by the derivation of

13 See appendix 4: „Economic Aspects of Insurance and the Legal Nature of the Insurance Contract„; the sole German court to have issued a decision regarding the nature of an insurance policy is *Oberlandesgericht Nürnberg* – Nuremberg Supreme Court (*Verbraucher und Recht*, VuR 5/91 p. 274 et seq.). It described an insurance policy as a „combination contract„ comprising a „fiduciary contract„ (insurance) and an „business managing contract within the meaning of section 675 of the German Civil Code„: „In contract-law terms, the premium…is to be classed as a payment by the insured community into a mutual pool that is to be managed in the interests of policyholders and otherwise to be refunded. Only the administrative overheads built into the premiums constitute true valuable consideration paid by policyholders for corresponding services rendered to them.„ The German Federal Court of Justice (*Bundesgerichtshof*) left open the issue of the legal nature of insurance policies (Versicherungsrecht 1982, 482, 483) and let known in 1994 (*Versicherungsrecht* 1995, 77, 78), „Once again, there is no need to decide this issue here.„

> gross domestic product, where the insurance sector is accounted for not with total premiums, but with its operating costs alone.„

This is confirmed by *Plath* in another German Insurance Association annual report:[14]

> „The underlying factor of premium calculation must necessarily be loss requirements. These are *entirely closed to competition*.„

Writing in 1979, *Heinz Sievers*, then President of the Liability, Casualty and Motor Insurance Association (HUK-Verband) responsible for motor insurance, described the portion of motor insurance comprising *'company-specific premium components'* (service components) as very small:[15]

> *„Company-specific items – that is, cost and profit items governing competition in the premiums sector – are contained in the relatively small marginal remainder of about 15%„.*

The EU Commission likewise acknowledged in passing the Block Exemption Regulation (3932/92/EEC) that insurance is subject to extraneous circumstances; that is, circumstances that are 'outside the control of insurance companies' (as expressed in the German version of the Regulation). In Recital No. 6 of the Block Exemption Regulation – which is proof in itself that insurance is something other than a product in the production-theory sense of the word – we find the following:

> „Joint studies on the *probable impact of extraneous circumstances* that may influence the frequency or scale of claims… should also be included.„

Kollhosser comments this recital as follows:[16]

> „The Commission expressly condones collaboration between insurance companies in the calculation of net premiums…. *Company-specific premium components*, on the other hand, being *competition factors*, are not to be open to collusion.„

It is thus a matter of consensus that premium-insurance is split into two segments:

- A *company-specific* segment (constituting *about 15 % of premium income* in motor insurance), in which insurance companies *exercise a distributive function and can influence prices* in return for *company-specific premium components* that are *open to competition* (note: if they were stated as prices).
- A segment with *extraneous circumstances* (constituting *about 85 % of premium income* in motor insurance), in which all insurance companies can only *exercise a distributive function and cannot influence prices* and which is *entirely closed to competition*.

To this day, the powers that be have failed to acknowledge the irreconcilable conflict between their view that premium-insurance is a product or service of premium-insurers with the premiums paid for it constituting a price and their own conclusion that a large area of premium-insurance cannot be influenced economically by the premium insurers in the form of pricing or competitive activities.

A second contradiction with the 'premiums are a price' theory results from the consensus among all concerned that „in all forms of insurance, the funds for loss

14 *Gesamtverband der Deutschen Versicherungswirtschaft*, Geschäftsbericht 1965/66, p. 15.
15 *Versicherungswirtschaft* 1979, 1360
16 *Kollhosser* in Prölss, VAG, 11th Ed., Appendix II on §81, marginal note no.. 41, p. 971)

payments must be provided by the insured„[17]. If premiums are a price, how is this meant to work?

A third contradiction results from the consensus among all concerned that insurance premiums are a price but surpluses from insurance activities are not business profits.[18] What vendor of goods and services must refund surpluses on its prices to its customers?

A fourth contradiction with the 'premiums are a price' theory results from the expressed opinion of many in responsibility (in concordance with the opinions presented above) that the service performed by premium-insurers is merely organizational in nature and that the companies manage policyholders' premiums on a *fiduciary* basis.[19] In this point, the academics who have applied production theory to premium-insurance contradict themselves.

As early as the mid-1970s, *Dieter Farny*, after devoting pages of his thesis submitted for the certification of habilitation *Produktions- und Kostentheorie der Versicherung* ('Production and Cost Theory of Insurance') to arguments as to why insurance is a 'product' and premiums a 'price', continued on page 48:

> „The majority of the assets held by insurance companies are managed *on a fiduciary basis*.„

Legal minds might well wonder how fiduciary assets can come out if what goes in is a 'price'. Yet it is to *Farny* that hundreds of academics have turned for proof that insurance is a product of insurance companies and that premiums are the price paid for it.[20]

The insurance (business) theorist *Walter Karten* advocates the opinion that selling of insurance cover against payment of a premium as the asking price is like selling

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17 *Dreher* (Footnote 45), p. 37, referring to *Schmidt-Rimpler*, *Versicherungsrecht* 1963, 483, 504; also see the additional quotations in Appendices.

18 *Gehrhardt* in Grosse, Müller-Lutz and R. Schmidt, *Die Versicherung* (bound edition of *Versicherungswirtschaftliches* Studienwerk*), Vol. 2 (1962-64), C VIII, p. 11*; *Claus* in *Veröffentlichungen des Bundesaufsichtsamtes für das Versicherungswesen* 1980, 22 et seq.; *Janotta-Simons* in *Veröffentlichungen des Bundesaufsichtsamtes für das Versicherungswesen* 11/85, p. 427; *Basedow*, *Zeitschrift für die gesamte Versicherungswirtschaft* 1992, 419, 421 et seq.; *Donath*, *Archiv für civilistische Praxis* 93 (1993), 279, 284 et seq.; *Schünemann* in *Neue Zeitschrift für Versicherung und Recht*, 1999, 345; *Schünemann* in *Versicherungsrecht* 2000, 144; *Lehmann* in *Versicherungswissenschaftliche Studien* Vol. 5 (1997), 19, Vol. 6, 161; Rückle in *Versicherungswissenschaftliche Studien* Vol. 5, 251, Vol. 6, 171; *Bundestags-Drucksache* 9/1493, reasoning, p. 27; likewise in *Bundestags-Drucksache* 12/6959, reasoning, p. 84 et seq.; Hanseatisches Oberlandesgericht Hamburg, *Versicherungsrecht* 1990, 475, 477; a Parliamentary Secretary of State from the German Federal Ministry of Finance responded at parliamentary question time on 14 May 1980: „It is true that risk surpluses… are not business profits in the usual sense of the word to the extent that they… are based on conservative actuarial calculations. To the extent surpluses have other causes, they are to be regarded as normal business profits as in any other industry.„ This opinion is of no practical value as no-one can tell which surpluses are 'risk surpluses' and which have 'other causes'.

19 See Appendix 6 (US study by *H. D. Meyer*, p. 29 et seq.) and Appendix 7 (German study by *H. D. Meyer*, p. 59 et seq.).

20 *M. Lehmann* in *Die Leistungswirtschaft des Versicherungsbetriebes*, in *Information und Produktion, Festschrift für Waldemar Wittmann*, p. 171, 209), explains that the production and cost theory of insurance advocated by *Farny* 'describes something that does not exist'. *Lehmann* describes it as a 'world of business-theory fairy tales'; *Klaus-Thomas Krycha*, *Kleines Betriebswirtschaftslehre-Lexikon*, 2nd Ed., 1986, 170: „Premiums are not a price or a valuable consideration as actuaries and the insurance industry wrongly claim.„

potatoes,[21] but then goes on to accuse politicians of „audacity„ based on astonishing reasoning:[22]

> „Insurance tax is wrongly levied on the total premium amount rather than on the 'added value' it contains. From a macroeconomic point of view, *insurance claim payments are stochastic transfer payments,* and *only the amount by which premiums exceed them constitutes added value* and is part of the national product.„

The German Federal Statistical Office employs this very same reduction of the gross production output of premium-insurers to the service component incorporated in GDP in its conclusion that only the service component of premiums constitutes valuable consideration earned by premium-insurers.[23]

For the sole reason that the premium-insurers mix up the insurance area and the service area in their traditional business practices, all concerned (the EU Commission, the legislatures, the ECJ and other courts, supervisory authorities, academics and journalists) have fallen prey to the misconception that the blend of the two constitutes – as a whole – a production activity susceptible to economic influence by premium-insurers and hence that insurance is their product.

Thus, premiums are regarded as 'prices' and 'turnover' and loss payments as 'costs' because they have traditionally been accounted for as such for a century. A stated gross premium is equated with a quoted price and deemed to satisfy the German Price Marking Order (*Preisangabenverordnung*).

The cause of the false conception of premium-insurance lies in vague legislation created about a century ago by academics in the field of insurance law without prior economic investigation of any substance and without any great involvement of the legislature itself.[24] The legislative provisions obliging policyholders to pay premiums and insurance companies to pay out benefits have left the insurance policy as such and in particular the resulting asset arrangements largely ungoverned for over a century. *Reimer Schmidt* thus speaks of insurance as a „primarily economic phenomenon that still awaits full definition in law.„[25] He also rightly concludes that „the intellectual task of dealing with the great questions of private insurance has passed from the lawyers to the economists, and in particular the business scientists.„[26]

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21 *Karten* in *Festschrift für Günter Schmidt, Neue Wege des Versicherungsmanagements* (Verlag Versicherungswirtschaft, Karlsruhe 1997, p. 75, 76); *Kaulbach*, Vice President of the German Insurance Supervisory Office, in *Lebensversicherung und Geschäftsbesorgung*, Hamburger Reihe, A, Heft 94, 1998, said the contractual structure of an insurance policy is „of a simplicity comparable with that of the contract of sale I enter into for a pound of apples on the market.„

22 *Karten*, loc. cit., p. 91.

23 See above, p. 15 and Footnote 10; also see *Lehmann* in *Versicherungswissenschaftliche Studien* Vol. 5, p. 167: „For obvious reasons, the Inland Revenue used to treat gambling revenues as payment for performance rendered so as to collect value-added tax on them without deducting paid-out winnings. It took the European Court of Justice to put a stop to this.„ P. 114: „*General Attorney F. G. Jacobs* notes more than once that activities such as gambling, betting – and also insurance – are unsuited to value-added tax because of their structure/are poorly suited for the levying of value-added tax (*Jacobs*, Umsatzsteuer-Rundschau 1994, p. 180 et seq.).„

24 *Reimer Schmidt*, *Handwörterbuch der Versicherung (HdV)*, 1988, p. 1246; Lehmann writes in a similar vein (in the Appendix, Economic *Aspects of Insurance and the Legal Nature of the Insurance Contract*, p. 12, 36): „It is common knowledge that legislators have given little thought to the matter of insurance contracts, and are thus unwilling to address their special characteristics through proper regulations„

25 *Reimer Schmidt,* Versicherungswirtschaft 1982, 804

26 *Reimer Schmidt*, *Handwörterbuch der Versicherung (HdV)*, p. 1116.

The *economic* analysis of the economic activities of premium-insurers as advocated by *Schmidt* must be based on the premise that premium-insurance is neither a product (in the narrower sense) nor a service (because with premiums unsplit, the 'object' factor of production – the money at which the service of collection and distribution would have to be performed – is lacking).

What, then, is premium-insurance from the point of view of economics?

Insurance without split premiums is a multiparty compensatory transaction – a feature that it shares with lotteries.[27] This type of transaction is characterized by a three-way relationship:

- A legally formulated promise (terms of a lottery or of insurance).
- An amount contributed by each participant (stake or premium).
- Individual pay-outs to a few participants selected by random criteria (a win on the lottery or a loss payment).

Compensatory transactions whose purpose is to compensate an advantage or disadvantage for a few participants selected by random criteria cannot be classified as payment for performance rendered.[28] Lottery-wins, like loss payments, do not constitute performance *produced* by the lottery or insurance company, but only performance *owed* (section 763 of the German Civil Code and section 1 of the German Insurance Contract Act [*Gesetz über den Versicherungsvertrag*]). Thus the lottery player's stake and the policyholder's premium cannot be classed as payment for performance rendered (as a price), because they are only paid with a view to performance (payment) owed. Payment for performance rendered, on the other hand, presupposes, as the name suggests, performance that is the result of production activity, which is not the case with the paying-out of insurance claims or lottery wins.[29]

Leverenz's phrase[30] – „Premiums are the policyholder's *payment* for the insurer's *obligation* to render the contracted performance on occurrence of the insured event„ – shows with unsurpassable clarity the mistake made by (almost) everyone of equating a compensatory payment with a payment for performance rendered. It also, however, incorporates in the wrong words but the right spirit the statement that premiums are only paid for a random obligation (subject to the law of obligations); that is, that premium-insurance is a compensatory transaction – the reverse of a lottery.

In a lottery, the lottery company enters into contracts with a multiplicity of individuals, promising to pay money to the winners selected in accordance with the terms of the lottery. The prize money is paid out to players whose lots are drawn at random. There is no contractual relationship among the players. The lottery company retains the wins on undrawn lots as its profit.[31]

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27 See, above all, *Lehmann* in the Appendix, *Economic Aspects of Insurance and the Legal Nature of the Insurance* Contract*,* pp. 16, 22, 31 et seq.

28 *Lehmann*, Appendix 4 (*Economic Aspects), p. 9.*

29 *Lehmann*, loc. cit.

30 *Kent Leverenz* in *Versicherungsrecht* 1997, p. 652, 655.

31 The definition of insurance (Insurance is the provision of coverage for a future financial need, specific details of which are unknown and whose total amount is estimated, on the basis of collective equalization of risk) is equivalent to that of gambling: „Lottery is the provision of coverage for a future financial need, specific details of which are unknown and whose total amount is estimated, on the basis of collective equalization of advantage„.

In premium-insurance, the premium-insurer signs policies with a multiplicity of individuals, promising to make loss payments in accordance with the insurance terms to policyholders on occurrence of the insured event. The loss payments are made to policy-holders who are befallen with the random event. The premium-insurance company retains the premium surplus as its profit.

Another feature peculiar to compensatory transactions is that while many pay a stake or premium, most do not receive any valuable consideration for it (neither under the law of obligations nor a product in the production-theory sense of the word). This type of transaction lacks any exchange of performance (*synallagma*), which is a further reason why premiums and lottery stakes cannot be a price.[32] The amount of the entrepreneurial 'profits' from compensatory transactions is – like that of payments under them – subject of chance and accident.[33]

Premium-insurance differs from a lottery, however, in that the 'sale' of an insurance policy is preceded by canvassing for custom, brokerage (in some cases including a 'consultation' for the potential customer) and risk assessment, and that insurance policies are intended to be of longer duration. These differences do not alter the fact that – because of the lack of a stated price – premium-insurance is not a product or a service, but a compensatory transaction.

If premium-insurers wish to argue they have a justification to make a profit, they cannot do so with recourse to production theory, and instead must admit that premium-insurance is a compensatory transaction. Then, however, those concerned in government and at the EU Commission must ask themselves whether they should permit the continued existence of a 'lottery with state-guaranteed profits' in respect of a statutorily mandated form of insurance cover such as motor liability insurance (which, after all, drivers cannot choose to do without).

Conclusion

As long as premiums remain unsplit, premium-insurers cannot be described as production or service enterprises. Instead, their business is that of entering into aleatory compensatory transactions (with profits determined by chance and accident).

All concerned should commission or undertake further investigations into the points we have touched upon (and possibly also into the taxation of insurance contributions and companies),[34] in particular into whether compensatory transactions with fortuitous and not performance-related profits and - resulting from that - with the profit-striving selection of applicants for insurance should continue to be tolerated. The result could be legislation – as in Japan – under which premiums must be split into a pure insurance contribution and a price for the services of the companies and the middlemen.

32 *Lehmann*, Appendix 4 (*Economic Aspects*), p. 9.; *Schünemann*, Appendix 3 (*Competitive Aspects*).

33 It is said that the business of insurance is characteristically exposed to a very special and unique kind of risk termed 'total underwriting risk'. It is the risk that claims exceed, in number or size, the amount assumed when premiums are set. This risk – which anyway is eliminated by contingency loadings and reinsurance – is counterweighted by the 'certain' opportunity of reaping 'profit' in the form of the perpetual surplus on premiums that is subject to probability only in amount.

34 See above, Footnote 23

3. Competitive suitability of the two models

a) Price/performance competition under premium-insurance

In the course of the present project, the great majority of those involved indicated that they thought insurance, including premium-insurance, to be an area subject to fierce competition. Almost all spoke in this context of competition on price; in particular, this is said to have caused a reduction in motor liability premiums since deregulation and tariff freedom. Tariff designs and the proliferation of risk criteria by selection using growing numbers of new groups of insureds is regarded as a result of this competition.[35]

b) Price/performance competition under the insurance-managing model

Under the insurance-managing theory there can be no competition in respect of insurance with its loss payments determined by chance and accident. Accordingly, price/performance competition is only possible in respect of the services of those who organize and mediate insurance, and depends for its existence on these services being made identifiable by separating them from the insurance area and quoting prices for them by separating the service price from the insurance contribution.

c) Investigation of the competitive suitability of the two models within the meaning of general competitive theory

The Commission on Insurance Deregulation appointed by Germany's Federal Minister of Economics submitted a report in March 1990 entitled *Abbau marktwidriger Regulierungen* (Elimination of Regulatory Controls Incompatible with the Free Market). The Commission acknowledged „that there are differences between the signing of an insurance policy and a sale of consumer goods„[36] and concluded that there is no competition surrounding insurance. The experts even express doubts „that competition among insurance companies is capable of functioning in all respects, including adequate consumer protection„. Here are some extracts from the report:

> „Competition is central to the free market… it continuously raises economic efficiency while simultaneously exercising effective control on economic power. Generally speaking, competition for consumer favour is the best means of consumer protection. The state… mandates standardized contracts and minimum standards for the quality of goods.

35 See in particular the speeches by *Steindorff* and *Claassens* in the Munich workshop folder, the minuted discussions in the annexed proceedings (Appendixes 6 and 7), and the passages quoted in the annexed German/American studies by *Hans Dieter Meyer*, *Rating and Classification in Automobile Liability Insurance*.

36 The German legislature acknowledged as long as a century ago that insurance is something other than an „indiscriminate commercial activity directed towards the production and provision of material goods„; see the deliberations preceding the passing of the *Versicherungsaufsichtsgesetz* (Insurance Supervision Act), extracts of which are quoted in *Prölss*, *VAG*, 10th Ed., marginal note no. 37 in the preliminary remarks, and in *Tigges*, *Geschichte und Entwicklung der Versicherungsaufsicht*, 1985, p. 81 et seq.

> Competition between suppliers for consumer demand controls business decisions in accordance with consumer preferences and to this extent secures consumer sovereignty, channels labour and capital to the production operations and production processes in which they can best produce social utility, enforces the fastest possible adjustment of supply to demand, generates a constant stream of innovations, distributes income in accordance with the value placed on output, and prevents incomes that may arise out of dependence of the one on the other. Finally, under perfect competition, the price matches the cost of producing a good. In an ideal free market, no-one should be prey to the whim of another, and consumers should be well informed and capable of quickly adapting to changing circumstances.
>
> The guiding aim of deregulation is to replace regulatory controls that restrict or prevent competition with controls that restrict competition to a lesser extent or not at all.„

Anyone who reads this description of competition and its objectives and apprehends both the general nature of insurance (as the provision and distribution of money) and the specific distinguishing feature of premium-insurance (as a compensatory transaction) will see that competition is impossible in respect of insurance in general and of premium-insurance in particular, and why this must be so. The random circumstances of insurance and its dependency on loss expenditure – that is, on events beyond the control of insurance companies – cannot „raise economic efficiency„ on its own. In insurance, nothing – bar services – is produced and nothing is consumed. There is no consumer sovereignty to channel labour and capital to the production operations and production processes in which they can best produce social utility. No price is stated for the services, so there is no economical output on which to place a value. Consumers are prey to the whim of premium-insurers, who finance and preside over their wasteful expenditures and their – unearned and hence unwarranted – profits on the perpetual surpluses from premiums.

aa) Rebuttals of the ‘fierce competition’ assumption

As with the assumption that insurance is a product of premium-insurers and that premiums are its price, the opinion that insurance is subject to fierce competition is countered by a series of contradictory quotations from among the ranks of those who hold it. In view of the importance of this question, we will reiterate these quotations here:[37]

Plath in a German Insurance Association annual report:

> „The underlying factor of premium calculation must necessarily be loss requirements. *These are entirely closed to competition*.„

Sievers, former President of the German Motor Insurance Association:

> *„Company-specific items – that is, cost and profit items governing competition in the premiums sector – are contained in the relatively small marginal remainder of about 15%„.*

37 See Footnotes 14 and 15 above.

Annual report of the German Insurance Association:

> „*Professor Braess* convincingly shows in his opinion that in respect of required premiums, the insurance sector has only a *distributive function without performing activities that have an impact on price*.„

Recital No. 6 of the Block Exemption Regulation (3932/92/EEC) refers to „*extraneous circumstances*„ that – as expressed in the German version of the Regulation – are „*outside the control of insurance companies*„. Thus only those company-specific accounting items are open to competition which *Sievers* names (see above) and attributes 15 per cent of premium income, as opposed to 85 per cent for insurance activities from which competition is precluded.

bb) Insurance and premium-insurance do not have a price/performance ratio

Even without the above evidence that insurance is closed to competition, and without delving any more deeply into theoretical disputes,[38] the fact that there is no such thing as 'consumer sovereignty' as a prerequisite of competition on price and performance can be demonstrated from practical observation alone.

First of all we observe that in insurance, unlike any other economic pursuit, consumers are required to pay contributions or premiums without being told precisely what the money is for. True, they are presented with an insurance policy containing terms and conditions, yet they are unable to ascertain its monetary value. That is, an offer of insurance does not indicate what relationship the specific performance incumbent upon (or the obligation owed by) the individual policyholder or indeed all policyholders bears to the specific performance incumbent upon (or the obligation owed by) the insurance company or, specifically, to alleged 'insurance performances' in the conventional sense (loss payments). The lack of such a relationship is a function of the often misapprehended nature of insurance.

Insurance only works in a collective that is either self-organizing in the form of an association or is organized by a company. In either case, insureds pay contributions or premiums, but few receive a payment from their insurance. Most – as in a lottery – receive no such payment at all. Thus, an offer of insurance (that is, the amount of the premium or contribution and the terms and conditions) neither discloses the relationship between the amount they pay in and the loss payments they get out, nor – as with a lottery ticket – does it evince any relationship between price and (produced) performance[39] as these features are lacking in insurance and premium-insurance.

Even when brought together in a mutual association or pooled, insureds cannot fully eliminate uncertainty as to the extent of their future financial loss. The sum total of the necessary contributions can be roughly estimated by the law of large numbers. But to make insurance certain and secure, premiums must be overestimated by incorporating

38 See Footnote 1 and in the Appendix the short study (*Competitive Aspects*) by *Schünemann* and the compilation of opinions and quotations on *Economic Aspects* in particular the economic analysis by *Lehmann*.

39 *Langheid*, *Neue Zeitschrift für Versicherung und Recht* 2000, 63: „Because understanding or indeed taking adequate notice of the 'intangible product' we know as insurance is simply beyond even the average consumer, the latter is unable to make meaningful performance comparisons; this simultaneously precludes price comparisons, since the consumer can compare premiums in absolute terms but not the amounts insurance companies would pay out in the event of a claim.„ *R. Schmidt* in Prölss, *VAG*, 9th Ed., 1983, marginal note no. 45 in the preliminary remarks: The high market shares of expensive premium-insurers are evidence that consumers do not (or cannot) compare prices.

contingency loadings. Persistent surpluses on contributions or premiums result in the insurance area; while these may be known as 'risk surpluses', they are not the outcome of production activity and hence are not business profit.[40]

As we have seen, neither the size of contributions or premiums nor the size of loss payments can be known in advance. As such, they cannot be ascribed a value and cannot be placed in relation to each other, and consumers cannot rationally decide whether an offer of insurance is good value. Insurance thus lacks a premium/loss payments ratio that is known at the outset (just as there is not a stake/pay-out ratio for a lottery). This alone is enough to show that the appropriateness of a premium cannot be adjudged in advance. But that is not all: since insurance contributions and premiums are not a price and insurance and loss payments are not products as a result of an economic activity, insurance and premium insurance are not open to price/performance competition (just as there is no stake/pay-out competition among lotteries).

Insurance, then, lacks competition, and with it the ability of competition to protect the consumer. There are also no competitive sanctions.

cc) Insurance lacks competitive sanctions

Premium-insurers 'profit' in a number of ways from lumping together the money policyholders contribute to cover losses with the price of their services:

- They do not need to quote a price for their services proper, or, consequently, to be precise in calculating prices and costs.
- They do not need to compete in respect of these services, or, consequently, to raise product quality or cut costs.
- To meet their costs – particularly in the event of miscalculation – they can take as much of the money policyholders have entrusted them with as they wish.[41]

Without a split premium, there are no competitive sanctions even for mismanaged insurance companies, as *Farny* rightly notes: [42]

> „An optimum linkage between the sanctions mechanism of the free market and creditor protection for policyholders would consist in penalizing shareholders and executives for their mistakes while upholding the creditors' rights of policyholders. Yet a feasible way of achieving this is not yet discovered.„

Note that the sanctions mechanism of the free market is in evidence not only in business losses, but also in the fact that visibly poor and overpriced products disappear from the market to the benefit of the consumer. Published proceedings of the German Bundestag[43] and announcements of the federal supervisory authorities confirm and explain the following:

> Insurance companies must apply prudence when setting contributions or premiums. As a result, premiums contain high contingency loadings to allow for the uncertainties inevitably associated with future events – and above all with the cost of insurance claims. The accrued surpluses from loss expenditure must be

40 See Footnotes 28 and 29 above (*Lehmann*, Appendix 4, Page 9).

41 As *Capital*, a German business magazine, wrote in 1979: „The insurance companies have it easy. If their costs exceed forecast, they take the extra money from the surpluses they automatically derive from invested funds and their prudent estimates of future underwriting losses. Yet this money really belongs to policyholders.„

42 *Farny*, *Zeitschrift für die gesamte Versicherungswirtschaft* 1979, 66.

43 *Bundestags-Drucksache* 9/1493, reasoning, p. 27; *Bundestags-Drucksache* 12/6959, reasoning, p. 84 et seq.

> used to the benefit of policyholders. This does not happen, however, because insurance companies use these surpluses to offset losses on their service activities at the policyholders' expense.

Gottfried Claus, head of a department at the German Federal Insurance Supervisory Office, notes:[44]

> „There is in fact no regulatory mechanism compelling insurance companies to keep their costs within reasonable bounds. As the market fails in this regard, an insurance company can well survive despite a deterioration in its cost position. The consequences of business mistakes and mismanagement are borne by the policyholder and none other.„

Unlike enterprises in other sectors of the economy, then, premium-insurers – who claim they can produce and offer the acceptance of risk – do not even face business risk, since they can use the surpluses they accrue on premiums and the interest income they accrue on actuarial provisions and reserves to make up for their mismanagement and for overshooting their own administrative expenditure calculation (situations in which other businesses would make a loss or go bankrupt), and can do so undetected by the outside world.

The German legislature identified as early as a hundred years ago the possibility that policyholders' money could be misused to offset losses or to claim an unearned profit as a „danger of the most severe harm to the welfare of the people„, but believed this danger – stemming in particular from premium-insurance – could be eliminated and prevented by a state regulatory agency. Policyholders, unable to judge the appropriateness of premiums in advance, thereupon justifiably assumed the regulatory agency would prevent premiums that were excessive or not performance-related. [45] Even before deregulation, however, the German supervisory authority did not regard this as its remit.[46]

The EU rightly acknowledges that there is no competition in insurance and that state insurance supervisory agencies cannot engender or take the place of competition. Those concerned, however, err in their belief that market and competitive failure in insurance is caused or partly caused by state regulation. Deregulation of the insurance sector has thus likewise failed to bring about 'more' competition, being incapable of doing so.

We cannot stress too often that insurance as a means of income redistribution and premium-insurance in particular is fully closed to competition. The same applies for insurance company services that are lumped together with insurance without being identified or given a price such that it is impossible to ascribe them a monetary value.

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44 *Claus*, *Veröffentlichungen des Bundesaufsichtsamts für das Versicherungswesen* 1980, 22, 25.

45 *R. Schmidt in Prölss*, VAG, 9 Ed. 1983, marginal note 45 in the preliminary remarks: „When consumers sign policies in a mass insurance sector, they no longer consider that they are signing a contract whose content they need to examine beforehand; instead, they are 'buying' a certain ready-made, 'officially approved' service model.„

46 The *German Federal Insurance Supervisory Office (BAV)* refrained from preventing extortionate casualty premiums considered four times too high, giving its reasoning in a letter to the Bund der Versicherten as follows: „The setting of premiums in casualty insurance is a matter of business-policy discretion for the insurance companies. The BAV cannot take action against excessive premiums„. The German courts responded, as would the policyholders: „The BAV is obliged to prevent complaint-worthy disparities between the payments made by the two sides„ (*Bundesverwaltungsgericht, Versicherungsrecht* 1990, 473, 474), and: „The plaintiff took out the insurance policy with a publicly listed company. The objective of a publicly limited company is to generate profits; it is restrained in this by the checks and balances of the Insurance Supervisory Office„ (*Landgericht Hamburg*, *Versicherungsrecht* 1996, 1134, 1135).

Thus the question is not – as it is always wrongly formulated, investigated and answered – whether there is competition in insurance; instead, the question that those concerned ought to be investigating must necessarily be what insurance-sector services and what portions of premiums are subject to and can be influenced by competition – that is, by the activities of insurance (service) companies within the meaning of production theory.

It is wrong and misleading to speak of an insurance 'market' when there can only be a market for insurance services. Anyone who says one can 'buy' or 'sell' insurance, or avers there is an insurance 'market' (trading in policies, maybe?) and there is competition surrounding insurance, needs to explain – in business and economic terms – how this alleged buying and selling, market, and competition are meant to work. It is a fact that insurance claims are determined by chance and accident. It is also a fact that policyholders supply the funds to meet claims in excess. So if motor liability insurance companies experience a fall in total income from premiums, then one of several things must have happened: either – due to random events – the total cost of claims has fallen, or the insurance companies have miscalculated, or they have – via the apportionment of overheads – resorted to cross-subsidization (for example by exploiting opportunities for tie-ins with life assurance),[47] or they have indeed – by restructuring – reduced their service costs (though on the open market they are deprived of a competitive advantage from doing so because of the failure to quote prices – both on their own part and, to an even greater extent, on the part of their rivals whose premiums contain a larger service component). The only way an individual insurance company can reduce payments on the insurance side is by the selection of low-risk groups (see II. 3. d below) – with the result that all other companies suffer higher total loss payments and require total premiums. The total cost of claims across the entire compulsorily insured population remains constant.

The preconditions of competition are not in place until offers of insurance state the premium in two separate parts in accordance with actuarial and cost calculations. Without this separation, the ability to compare offers and hence an essential element of competition is lacking. At best, for the time being, we have a 'rivalry' within the meaning of a plural number of offerers.

Legislation mandating that premiums be split up in this way would be in keeping with the German Price Marking Order (*Preisangabenverordnung*), which makes allowance for the information model of consumer protection by requiring honesty and clarity in indicated prices (section 1 para. 6 of the Order). The obligation to indicate a „final price„ (section 1 para. 1 sentence 1 of the Order) does not go against splitting an insurance premium into a service fee and the actual insurance contribution because the latter, as we have seen, is not a price, but a contribution to a pooled fund for distribution. Section 1 para. 3 of the Order dictates with ample clarity that „no sum total may be given„ in cases where other payments are owed in addition to the „price of the product or service„.

Split premiums are not a Utopian ideal; indeed, they already exist (for example in motor insurance in Japan and the Philippines – see *H. D. Meyer* in *Versicherungswissenschaftliche Studien*, Band 1, p. 149, 150 Footnote 3). The national accounts of countries the world over lend further support to the demand for split premiums.

47 See Footnote 3 above.

Legislation of this kind presupposes, however, that those responsible – at EU as well as national level – acknowledge on the basis of neutral academic studies that competition surrounding insurance and the hybrid of premium-insurance are an impossibility, and that a legislated unbundling of insurance and services (including savings in the case of capital life assurance) neither constitute an intervention in commercial activity nor have anything to do with the freedom to provide services.

d) Selection as a means of influencing profit on compensatory transactions

Selection is (only) means of influencing profit in competition with other providers; it is not a means of influencing price and performance in competition, nor one of influencing consumer choice.

The German Federal Economics Ministry and the German Insurance Supervisory Office have unanimously stated that „the division of insurance into tariff groups„ is a „result of competition among insurance companies„. An industry functionary has even said that „competition ensures that premiums come out at the best possible level„. This was also the view held by the majority in speeches and discussions relating to the premium-insurance model in the course of the present project. It implies that competition allegedly produces insurance ratings and premiums that accurately reflect risk – in the course of which risk is regarded as risk of car owner *groups*, but not of the *individual* insured.[48]

Group selection cannot be a competitive activity. If insurance companies cannot influence loss payments by business policy means, and if insurance and in particular premium-insurance does not have a price/performance ratio or even an identifiable premium/claims payments ratio, there can be no competition surrounding insurance or the compensatory transaction known as premium-insurance (see II. 3. c above). Competition must affect the price/performance ratio of a product or service by either reducing its cost and price or by improving its quality. As shown above, insurance is not a product in the broadest production-theory sense of the word. Product quality and price are not among its attributes.

Selection does not – as competition demands – channel labour and capital to those production operations and production processes in which they can best produce social utility; under compulsory insurance, it merely redistributes the total premium required to cover the probabilistically determined loss payments among the various groups of policyholders within the insured community. If policyholders with blond hair and small feet pay lower premiums, dark-haired people with large feet must automatically pay higher premiums. To cite a report of the US Federal Insurance Administration:

> „In insurance there is one form of competition that seldom exists in the case of other products or services. That is selection competition – the ability of an insurer

48 Premiums cannot in fact accurately reflect the risk of a group of car owners since the advocates of the current tariff system allege that such groups are homogeneous, which necessarily implies the appropriate level for the group and the appropriate level for the individual are identical, since in a homogeneous group all risks must be the same so that premiums that accurately reflect group risk must also accurately reflect individual risk. This is not the case in almost all current tariff classes. To this extent, *U. Meyer* (Part III of this Final Report, Section 2) is mistaken in assuming that „competition – also and particularly with regard to the application of tariff criteria – does indeed enhance premium fairness.„ Appropriate premiums and competition are unrelated (if only because competition for insurance, including premium-insurance as a compensatory transaction, cannot exist). The use of tariff criteria to select and anti-select good and bad risk groups is no more than a manifestation of competitive rivalry between insurance companies.

> to affect its success, not by the price or quality of its products, but by selecting its customers in a fashion that will give it an advantage over its rivals. Selection competition is a feature of the insurance economy which seems to provide a ground for distinguishing insurance from other products and services and for fashioning for insurance a series of special rules unique to its problems and circumstances. Selection competition should have few admirers. It is capable of totally denying to some people the opportunity to get insurance.
>
> An insurer can enhance its profits and competitive position as much or more by not writing business as it can by writing it. In short, whereas the seller of tangible goods can, and will, sell indiscriminately to any purchaser who will pay the price, and has no incentive to restrict his sales, the insurer's profits and competitive success currently are derived through its ability to select the risks.„

Insurance Commissioner Stone spoke along similar lines at a hearing before the US Senate:

> „One of the most consistent thematic elements in the presentations in support of the current approach is the argument that any major deviation from the present relativities will be incompatible with competition. I disagree with the demands of a competitive system, and I would *trace the source of the dispute to problems which surround the definition of competition*. There is no universally accepted definition for the most suitable form of insurance competition. Competition's greatest benefits have generally been presumed to be related to efficiency. Nothing in the proposals would impede overall rate level competition based on differing of business efficiency. The sort of competition that risk assessment freedom provides has no incentive impact on operating costs. The insurance mechanism in use today observes and measures claims, but it never reduces them.„

Selection can never influence claims or the compensation of losses for the economy as a whole. If an insurance company manages to select out of the insured community a class of drivers with lower required premiums and offers these drivers a lower premium, all other compulsorily insured individuals must automatically pay higher premiums because the sum total of all motor liability claims in the economy as a whole remains constant. The profits that premium-insurers gain from selection of a newly discovered risk group[49] are thus always destined to be short-lived.

Whereas in price/performance competition the individual consumer is the deciding factor in the truest sense of the word, the practice of group selection turns a driver required by law to take out motor liability insurance into an involuntary member of a pool. The driver has no recourse against this cartel-style selection. He is obliged to take out insurance; if he happens to be a city-dweller, a learner-driver, a foreigner and not a civil servant, he must simply accept that all insurance companies will classify him according to the dictates of selection and anti-selection in a high-premium group notwithstanding his good, claims-free driving record. His only recourse would be not to buy a car.

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49 Senate hearing, 1978: „Insurers seek to improve their risk assessment accuracy by identifying a subgroup with a lower risk from a large uniformly rated group, and if they can select this subgroup, they can improve their underwriting results.„ US report, 1979: „Insurers will continue to experiment with private passenger auto classification plans. Insurers operating in a competitive environment are constantly seeking to identify better than average risks in order to maximize profits.„ Senate hearing: „Every company, through selection and pricing, will attempt to identify and write the good drivers and avoid the bad drivers. This is the company's response to sound public policy, fair play and economic realities.„ These quotations explain the proliferation of tariff criteria since deregulation in 1995.

e) 'Natural' selection by voluntary restriction of activities to specific regions or occupations

We should distinguish between competition-driven selection and the 'natural' form of selection chiefly brought about by mutual insurance companies that have a specific regional or occupational focus (e.g., mutual insurance associations of civil servants, farmers, homeowners, bakers or driving instructors). Historically speaking, it is precisely mutual insurance companies of this kind that triggered or rather, made necessary, the competition-driven selective tariff design practices of premium-insurers, who in most cases serve all regions and all occupations. It is essential to bear this in mind when considering the abolition or restriction of selection practices. Insurance companies would then be unable to operate regionally or focus on specific occupational groups, or they would have to remit some form of risk structure compensation to a pool.

4. Application of insurance techniques to the two models

The two insurance and tariff models both claim to conform with the techniques of the general insurance sector. Yet, as has already been intimated in the brief descriptions of each model, they are based on quite different views of the nature of insurance. Accordingly, insurance techniques and the insurance technical equivalence principle in particular are applied differently in each model:

- In the premium-insurance model – due to its speculative compensation principle – to the cost of claims of entire groups of car owners;
- In the insurance-managing model, to the individual insured risk of each insured.

The insurance technical equivalence principle, which in the case of statutory liability insurance is lent even greater stringency by the constitutional equality rule, provides as follows:[50]

> The insurance contribution paid by every policyholder must reflect his or her *individual* risk, which must be ascertained with reference to *typical risk criteria* that enable the company or insurance manager to assess and class *all* risks in a community of insureds.

a) Tariff design under the premium-insurance model

As explained earlier, the tariffs of premium-insurers were initially a response to 'natural' selection of regions and occupations by mutual insurance companies. In time, selective tariff design with risk groups as practised by the premium-insurers became progressively more sophisticated, and consequently the equivalence principle became modified into a '*collective*' equivalence principle:[51]

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50 *Heinz Sievers*, President of the Liability, Casualty and Motor Insurance Association (*HUK-Verband*), 1980: „There is a firmly held view in the insurance sector that the only important consideration is what risk each policyholder brings into the risk pool.„ From a 1980 study commissioned by the German Insurance Association (*GDV-Studie*, *Zeitschrift für die gesamte Versicherungswirtschaft* 1982, 461): „The only criteria that should be considered, however, are those whose influence on the insured risk is capable of rigorous statistical proof.„

51 From the German Insurance Association study (see previous footnote): „Under the actuarial equivalence principle, the premium for underwriting a risk in a given risk group should equal the expected average loss

> Each policyholder in a *class* for which claims expenditure differs from other groups should pay a premium reflecting the *average expected loss evenly spread across all class members*.

Due to effects of risk selection on rivaling insurers, mutual insurance companies had to follow suit and supplement their 'natural' selection of risks with competitive selection.

Premium-insurers and their advocates admit this departure from standard insurance techniques but defend it as 'necessary', claiming that individual risk cannot be estimated in motor liability insurance.[52] Additionally, they claim, tariff design is 'pricing' and premium-insurers can set their prices as they will and as the alleged competition dictates.

The tariff systems used by all European motor liability insurance companies distinguish between primary premium-differentiation (class rating) and tarification by experience (bonus/malus systems).

aa) Primary premium-differentiation

Tariff classes are formed according to personal, vehicle-usage and vehicle-related criteria: nationality, age, occupation (hundreds of which are used in classification), gender, education, marital status, health, number and age of children, homeowner or tenant, garage ownership, domicile (classed broadly by region as with German *Länder*, or by neighbourhood as with the practise of 'redlining' predominantly coloured blocks in the US), punctuality in paying premiums, other insurance cover, credit rating, star sign,[53] number of years driving licence held, claims-free period, driving offences, safety training, claims, annual mileage, distance from workplace, *Bahncard* (a discount card offered to German rail travellers), vehicle usage, number of drivers, sexual orientation, religion, type of vehicle (horsepower, vehicle weight and engine displacement), optional extras (ABS), vehicle age (new or second-hand), purchase price, top speed, type of fuel,

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in that group. As the expected loss is unknown, the aggregate average loss is used as an approximation. Under the equivalence principle, the premiums in each homogeneous subset of the risk portfolio should equal the average loss in the respective subset.„ *Professor U. Meyer* (Part III of this Final Report, Section 2) calls this the „*collective* equivalence principle„. In Footnote 2 of the same document, however, *Professor Meyer* explains that „*risk*„ in this context means the risk „from the point of view of the insurer„ as the „risk, within the framework of this contract, of having to pay compensation„. This type of risk evaluation or premium calculation has nothing to do with the actuarial equivalence principle, which is about the risk of giving rise to a motor liability claim. The „*collective*„ equivalence principle is solely about the *business* risk of a company that enters into compensatory transactions and aims to influence its own risk, profit-making opportunities and profits by group selection.

52 *Heinz Sievers*, President of the Liability, Casualty and Motor Insurance Association (*HUK-Verband*), 1979: „No-one can make predictions about likely driving conduct„. *Deutsche Versicherungswirtschaft*, 1936: „Risk is determined by many factors. The most important such factor is the personal; that is, the attributes of whoever is driving the vehicle. Yet these do not lend themselves to tariff design, because one does not usually know who will drive the vehicle at different times during the term of the insurance policy. Even if this were to be known at the outset, it would still not be possible to set rates according to the identity of the driver, because no measuring standard is available for doing so.„ *US report, 1979*: „On an individual basis, accident involvement is so infrequent that this random element of accidental loss overwhelms and masks the predictable, or expected loss component. It is immediately apparent that there is a complete inability in the real world to measure the expected loss precisely on an individual basis.„ *Senate hearing, 1978*: „No one is capable of predicting exactly what losses each individual insured will sustain. This is why groupings or groups are necessary.„

53 Statisticians in England have shown that drivers born under the Taurus star sign cause 30 per cent fewer and Leos 15 per cent more accidents. Astonishingly, German statisticians arrive at similar results.

colour… (see the table provided by *Professor Meyer* in Part III of this Final Report, Section 5, p. 141, Table 3).

Using these criteria, the premium-insurers place drivers in groups, ascertain their loss expenditures and compare these with the loss expenditure of other groups. If there is significant variation, the loss payments of the group is spread across all member of the group by allocating each one (including claims-free drivers) the average loss. After ascertaining this fictitious average loss, a personal loss or individual risk is calculated for each member of the group – and for each applicant with the same criterion – as follows: the group loss expectation (total loss expectation plus contingency loadings) as the total risk of the group is divided by the number of group members to give a uniform (average) loss expectation for each group member. This amount is then assigned to each individual group member as his or her 'individual risk' (loss probability) and the group criterion (occupation, place of residence, garage ownership, etc.) used as a risk-/hazard-/tariff-criterion – in the place of missing risk and hazard criteria (such as bad driving).

Not all the above risk criteria are used for tariff design in all European countries. Some countries have banned the use of certain criteria (in Germany, for example, nationality is excluded under section 81e of the Insurance Supervision Act (*Versicherungsaufsichtsgesetz*). The criteria are also used in a wide range of different combinations. Overall, primary premium differentiation (class rating; the allocation of loss expenditure to specific groups) produces very different premium spreads in the various European countries:

Premium spreads due to primary premium differentiation

1 : 2 – 1 : 5	2 countries (GR, P)
1 : 5 – 1 : 10	6 countries (B, DK, E, I, N, NL)
1 : 10 – 1 : 20	3 countries (A, CH, S)
approx. 1 : 30	4 countries (*Germany*, F, GB, IRL)

bb) Bonus-malus systems

Primary premium-differentiation (class rating) is supplemented in all European countries by what are known as bonus-malus systems (also known as merit-rating or no-claims-bonus systems), which aim to incorporate a tarification by experience based on claims-free driving as an additional tariff criterion. As with primary premium differentiation, the bonus-malus system begins with statistical analysis of the loss expenditure for various groups. Policyholders are grouped according to the length of time without claims or to the number of claims and, once again, a class loss expectation (total loss expectation plus contingency loadings) is computed to represent the loss expenditure of each group so that an (average) loss expectation can be derived and apportioned to each member of the group as his or her 'individual risk'.[54] Practices again

54 *American Insurance Association, 1980*: „Each driver is assigned to a group with similar characteristics and pays a price for insurance based as closely as possible on the losses which past experience indicated will be produced by that group. Auto insurance classifications discriminate among drivers on the basis of statistical evidence – evidence that makes such discrimination not only acceptable, but fair and logical.„ *US report*: „This is the classical concept of insurance rating: grouping by objective characteristics and charging

vary widely across Europe, and the different bolus-malus systems result in considerable variations in premium spread:

Premium spreads due to bonus-malus systems

Spread	Premium Range (% of pure premium)	Countries
1 : 1.4	70 – 100	1 (E)
1 : 2	50 – 100	1 (IRL)
1 : 3 – 1 : 4.5		9 (A, B, DK, GB, GR, NL, P, S, SF)
1 : 5 – 1 : 6		2 (N, L)
1 : 7 – 1 : 7.5		2 (CH, F)
1 : 8.2	30 – 245	1 (*Germany*)

Note also the wide variation in the number of years after first registration of a vehicle that young drivers take to attain the lowest premium level:

No. of years to attain lowest premium level	Countries
2 – 5 years	4 (E, GB, IRL, P)
6 – 8 years	4 (A, DK, GR, S)
10 – 14 years	7 (B, F, I, L, N, NL, SF)
21 years	1 (*Germany*)

The combination of a wide range of different primary premium differentiations (class ratings) using a wide range of different bonus-malus systems produces great variation in premium spreads across Europe:

Total spread due to primary premium differentiation and bonus-malus:

less than 1 : 10	3 countries (GR, L, SF)
1 : 20 – 1 : 50	6 countries (B, DK, E, I, NL, P)
1 : 50 – 1 : 80	5 countries (A, GB, IRL, NL, S)
approx. 1 : 110	1 country (CH)
approx. 1 : 210	1 country (F)
approx. 1 : 250	1 country (*Germany*)

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the group average to the individual members. Basically, insurers have used a system which attempts to group people in categories that in the past have shown demonstrably different risk exposure compared to other groups. Insurers establish these groups according to the loss experience that can be anticipated for a group. The use of age, sex and marital status variables is justified on the basis of their ability to predict losses for groups and, thus, to separate groups from a competitive perspective.„ *Senate hearing*: „It would be unfair discrimination from a statistical standpoint if the groups thus identified were not rated accordingly. Since ratemaking on an individual basis is not feasible, certain groupings or classifications were developed as a means for the pricing of risks.„ *Heinz Sievers*, President of the Liability, Casualty and Motor Insurance Association (HUK-Verband), 1979: „The established structures largely place competing insurers on a equal footing. This has not only resulted in a level competitive playing field, but also the correct differentiation of, on average, correctly calculated premiums in accordance with the losses brought about by large groups of policyholders.„

If in Germany premium-insurers were not banned from using nationality as a risk criterion, the premium spread there would be wider still, at 1 : 375, since statisticians have shown loss expenditure for foreigners to be 50 per cent higher than for Germans, hence foreigners would have to pay a 50 % risk loading.

Not only the huge premium spreads in specific countries, but also the variations in spreads between countries ought to give the responsible parties food for thought and to move them to ask whether such large differences in premiums for compulsory insurance are not discriminatory, and whether such discrimination is indeed justified by insurance techniques and the statistical methods employed in them.

cc) The role of statistics

The importance of statistics as the foundation and justification of current tariff structures is stressed again and again in both the US and Germany. From the pens of US commentators we read things like „statistically based and justified„, „distinctions backed by powerful statistics„, or „supported by a body of credible statistical data„.

The justification given for tariff design by class-based rather than individual risk criteria is that the criteria shall not be chosen arbitrarily; that is, classification shall be based not on whim, but on statistical investigation. Arbitrary criteria, so the argument goes, would be prevented by competition. Yet many class-rating advocates admit that class criteria are unrelated to risk. Then again, they reject 'causality' as a precondition for use of a criterion (such as age, occupation or garage ownership) and instead demand merely that there be a 'statistical relationship' between the criterion and loss expectation for the respective group.

Dr. Jürgen Klemmt (Chairman of the German Insurance Association commission that draws up and publishes tariff recommendations for motor liability insurance) said the following at the first workshop for the present project at Munich:[55]

> „We calculate a great deal, we do nothing by hand, we don't arbitrarily choose figures or guess them; wherever possible, we *calculate* something. … Wherever possible, we want something that is *calculated*. A couple of examples: The *Beamtentarif* for German civil servants immediately comes to mind…. Civil servants get a preference tariff because they are better drivers. And we have *crystal-clear statistical evidence* to prove it. And we go by this evidence and nothing else. There is nothing guessed or chosen about it. It goes without saying that the garage-ownership criterion is likewise *calculated*. If we recommend it, we do so not on the basis of assumption, but on something that has been *very thoroughly calculated*…„

'Statistically significant' results of this kind are meant to show that *every* civil servant and *every* garage owner is a good driver. The same type of statistical methods are used to demonstrate that *every* young person and *every* foreigner is a bad driver. And because on this interpretation of statistical results *every* civil servant and *every* young person and *every* foreigner is implicitly a bad driver, the groups that are the subject of the statistical analysis are implicitly *homogeneous* (which by the rules of statistics is a precondition for allowing the average loss expectation for the class to be ascribed to each member of the class as his or her individual loss expectation and personal risk).

55 *Klemmt,* see Munich conference folder, 2.2, p. 5 - 6.

This statistical tariff design method merely demands that risk criteria more or less significantly correlate – in statistical terms – with the size of the loss expectation for a given group. Some advocates of this method admit that the criteria are only meant as „surrogates for and indicators of the actual loss-causing circumstances„ and that tariff design using risk criteria of this kind leads to a risk-righteousness of the group but not to an accurate risk-related classification of each individual member in it.

b) Tariff design under the insurance-managing model

To enforce equal treatment of compulsorily insured drivers, the opponents of current tariff structures want insurance companies to do nothing more than apply the insurance technique and the insurance technical equivalence principle used in the general insurance sector to designing the tariffs in motor liability insurance.

As the practical experience of Japan and Egypt shows, where motor liability insurance is operated under the insurance managing model, the use of this model produces a very few risk criteria that need to be state-prescribed in order to prevent selection by all other possible criteria. Premium spreads are consequently also very narrow.

We will not investigate at this juncture whether the criteria used in these countries accurately reflect risk by insurance technical standards, and will instead focus on what motor liability tariff design should look like in accordance with the techniques of the general insurance sector and hence in accordance with the insurance-managing model. This simultaneously raises the question whether tariff design by group selection goes against the techniques of the general insurance sector and the insurance technical equivalence principle.

c) Investigation of tariff design methods for conformity with standard insurance techniques

This investigation will show that the advocates of the tariff design methods that prevail in Europe are absolutely wrong in their claim that these methods do not fundamentally differ from those used in the general insurance sector. The tariff design methods of premium-insurers, using the statistical averages of groups where classification is based on criteria that bear no relation to risk, are indeed fundamentally different and discriminate against millions of compulsorily insured drivers in Europe.

The insurance techniques used in premium/contribution fixing and classification comprise a number of steps:

aa) First, an insured community is created.
bb) Total need of contributions (including contingency and trend loadings) are ascertained for the insured community.
cc) The total need of contributions for the insured community is apportioned in accordance with the insurance technical equivalence principle: The insurance contribution paid by every policyholder must reflect his or her *individual* risk, which must be ascertained with reference to *typical risk criteria* that enable the company or insurance manager to assess and class *all* risks in a community of insureds.

(1) There follows a search for *risks* that are *typical* of the insured community and each *individual* policyholder, and for *typical criteria applicable to all policyholders* by which *the extent of risk and hazard* can be measured (risk and hazard criteria), and the search outcomes are used to examine whether it makes sense to create a number of different contribution classes with different contributions or contribution rates.
(2) If contribution classes are created, it is next necessary to decide *what risks with what degree of endangering to group together in classes*.
(3) *Insurance contributions and contribution rates* are set for the various risk groups *reflecting the differences in the extent of risk and hazard*.
(4) On receipt of an application for insurance, *the size of the risk to be insured and the degree of being endangered* are assessed by identifiable risk and hazard criteria.
(5) *The insured is assigned to a contribution class with the same risk and hazard criteria and hence the same level of insurance contributions or contribution rates and so pays contributions that reflect his or her individual risk.*

(aa) Creation of a compulsorily insured community

In motor liability insurance, the insured community is created not by insurance companies but by law, as Germany's Federal Insurance Supervisory Office correctly noted in 1979:[56]

> „Compulsory insurance places drivers in a risk pool. In the interests of those injured in road accidents, the funds contributed to this risk pool must suffice to meet their claims for compensation.„

The private-sector insurance companies are charged by the state with the task of organizing the national insured community.

In the light of this, even the establishment of a speciality insurance company (for example a regional or occupational insurer) does not create a new insured community, but a new tariff class (based on one specific criterion) that, unlike the insured community as a whole, is not intended to cover its own loss expenditure. It is an instance of 'natural' selection[57] that should not be permissible under national compulsory insurance because speciality insurance companies fragment the national insured community and break the subsidization chain to other compulsorily insureds, with the consequence that risk-equal insureds pay lower insurance contributions if the risk portfolio is constituted such that the selected group has lower loss expenditure and hence lower total premiums. Under national compulsory insurance, speciality insurers destroy the actuarial equivalence principle and the constitutional rule of equality among compulsorily insureds. Drivers with equal risk then pay different premiums depending on their affiliation to a specific insurance company. But other insurance companies, too, who demand excessive

56 Section 8 (General Principles) of the German Tariff Order (*Tarifverordnung*) applicable until deregulation stipulated that the tariff used by insurance companies must, „taking into account the loss experience of all insurance companies, be such that there is a reasonable relationship between insurance contributions and insurance benefits„. Furthermore, it must „give due allowance to the protection needs of injured parties, the interests of the compulsory insured in effective insurance cover in return for reasonable insurance contributions, and the risk pool comprising all policyholders.„

57 See II. 3 e. above

insurance contributions or select groups of insureds that must cover their own loss expenditure, fragment the insured community into many different such communities which comprise both good and bad drivers but in which good and bad drivers – due to the different composition of the risk portfolios – no longer pay the same insurance contributions.

In this context it would be appropriate to investigate whether the EU motor insurance directives have constituted a pan-European insured community.

(bb) Ascertainment of the total contribution need for the (national) compulsorily insured community

The total contribution need for the national insured community is, to a certain extent, already ascertained in the form of the annual community statistics, which are permitted in EU law under the Block Exemption Regulation.

It would be conceivable and desirable to have legislation mandating European annual community statistics for all European motor insurance companies.

Ascertaining total premiums is not a major problem. The figure is computed from losses in past years plus trend and contingency loadings.

(cc) Apportionment of the total contribution need among the (national) insured community

The greatest problem of motor liability insurance, and that which comprises the subject of the present project, is the ‘just’ allocation of the contribution need for a national insured community among individual compulsorily insured car owners in accordance with the insurance technical equivalence principle.

(1) The search for typical risks and hazards in motor liability insurance

There is little that is ‘typical’ in motor liability insurance, as the insured vehicle can have different drivers at different times and the situations that arise when driving are subject to constant change (similarly to personal liability insurance, where almost all insurers charge a uniform premium without distinguishing contribution classes). On the other hand, the great majority of motor liability claims result from subjectively poor driving. This can take the form of a momentary lapse or conduct that merely gives rise to strict liability. With a bad driver, however, bad driving is something typical that can be objectively (statistically) evaluated by analysing reported claims where the driver is at fault (for example by categories such as momentary lapse, conduct giving rise to strict liability, negligence or gross negligence, and claims frequency) and by taking driving convictions into account.

One thing that is typical of both momentary lapses and bad driving, however, is that a vehicle with a foreseeable high annual mileage constitutes a greater risk. This is also relatively easy to ascertain and subject to statistical analysis given that applicants and policyholders are honest in the information they supply.

Momentary lapses, bad driving and vehicle defects can, due to the mobility of an insured vehicle in constantly changing road situations, have very varied results. If there is no person or property there to be harmed when a driver makes a mistake, there is no loss and no liability claim. This fact makes tariff design in motor liability insurance far

more complicated than with other forms of insurance, and in particular than with liability insurance.

In motor liability insurance, the size of claims is not an indicator of increased risk (unlike, for example, the value of a timber house). Thus neither the size of individual claims nor the total loss expenditure for a group lends itself for use as a tariff criterion.[58] Conduct that is not in fact negligent but still gives rise to strict liability under Section 7 of the German Road Traffic Act (*Straßenverkehrsgesetz*)[59] can result in a high liability claim (such as for the death of a family breadwinner). On the other hand, grossly negligent conduct may result in no more than a damaged street-lamp.

Roofers, too, suffer momentary lapses and can deliver chronically bad work. But roofers constantly work in a typical environment so that 'works as a roofer' *can* be used as a criterion indicating a typical risk (as can 'works in an office' or 'works in a bakery'). Following the 'working environment' concept we just used for roofers, one might regard the geographical area in which a vehicle is driven as being typical of that vehicle. In any case, street blocks, place of resident or licence plate districts are not good indicators of where a vehicle is characteristically driven. As with the estimated annual mileage, however, every applicant for compulsory insurance could give information on probable areas of use with an estimated mileage for each area (including travel abroad).

Vehicle defects can cause losses that give rise to a liability claim. However, such defects are not representative and require a disproportionately large amount of effort to ascertain. On the other hand, certain models (and for a given model, cars made in certain years) exhibit better road-safety and fewer defects than others, and these attributes could doubtless be statistically verified.

Thus we see that there are only four typical risks in motor liability insurance that could be ascertained with reference to criteria for all compulsorily insured car owners:

- *Subjectively bad driving*, which can only be ascertained for individual policyholders by analysing past claims and driving convictions.[60]

- *(Estimated) annual mileage*, which can be ascertained from applicants and annually from policyholders.

58 As the *German Insurance Association study* – very rightly – puts it, „For the purposes of risk differentiation, the only criteria that should be considered are those whose influence on the insured risk is capable of rigorous statistical proof„ and „policyholders may be said to be at fault for a given accident, but not for the unforeseeable and uncontrollable severity of that accident.„ The authors then goes on to say, however, that „total required premiums can be used as a starting point for premium calculation„ even though, as they themselves point out, total required premiums „give no indication of how expenditures come about.„

59 Section 7 of the German Road Traffic Act runs as follows: „(1) If in the course of operating a motor vehicle any person is killed, injured or harmed or any item of property is damaged, the keeper of the vehicle shall make good the loss. (2) There shall be no duty to make good any loss resulting from any accident caused by an inevitable event that is due neither to a defect in the make-up of the vehicle nor to its functional failure. An event shall be deemed inevitable, *inter alia*, if… both the keeper of the vehicle and its driver have exercised due care as dictated by the circumstances prevailing at the time.„

60 *Professor Max Gürtler* (*Versicherungswirtschaftlichen Studienwerk*, bound edition, 1962-1964, C II, p. 18), concords with the view that criteria relating solely to subjective conduct are admissible, but then adds: „provided, of course, that the subjective risk criteria are capable of being ascertained. If not, the issue has already been decided.„ Similarly, section 6 para. 2 of the German Tariff Order (*Tarifverordnung*) stipulates: „Risk criteria that… determine the size and type of the insured risk can be taken into account in designing tariffs by insurance companies provided that they can be unequivocally ascertained.„

– *(Probable) area of use*, which can be ascertained from applicants and annually from policyholders.

– *Model and year of manufacture*, ascertainable from the vehicle papers.

Almost all the criteria currently used in tariff design and mentioned earlier

> nationality, age, occupation, gender, education, marital status, state of health, number and ages of children, home ownership, garage ownership, region or even street block, prompt payment of premiums, credit rating, star sign, number of years driving licence held, safety training, distance from workplace, *Bahncard*, vehicle usage, number of drivers, sexual orientation, religion, purchase price of vehicle, top speed, type of fuel, fuel consumption, bodywork colour, etc. –

are unsuited as indicators of the typical risk of a motor liability claim for individual insureds because they only relate to the 'aggregate' risk of the various *groups* of car owners for the premium-insurer. They give no information on individual insurance technical risk and its endangering.[61]

Going through these existing tariff criteria and eliminating those that are not usable, only the annual mileage and vehicle model remain, and even these would have to be weighted differently and be based on different starting questions in statistical data acquisition. All other criteria are the results of an inadmissible attempt to derive driver and usage profiles from the loss expenditure of car owner groups that differs from the loss expenditure of other car owner groups, and then to apply the resulting profiles – for example 'civil servants are good drivers' or 'young people are bad drivers' – to the individual group member. Even without going into further detail, it is immediately apparent that there are many bad drivers in the civil service and many good drivers among the ranks of the young. A US study has even shown the largest number of good drivers to be among the young, who, unburdened by work-related cares and problems, drive attentively and willingly. However, this group also includes the largest number of bad drivers who indulge in wild and careless driving (such as into a tree at night on the way home from a disco). 'Homogenizing' this age group by taking its very high average loss level (as is done in designing of current tariffs) suddenly makes many good drivers are into bad ones.

This example clearly demonstrates just how wrong and senseless is the method of applying group criteria to individual group members when an inhomogeneous class is 'homogenized' by recourse to averaged figures.

61 *Hans-Jürgen Küssner*, *Versicherungswissenschaftliche Studien*, Vol. 1, p. 138, 142 et seq.): „It would appear more unlikely than not that the civil-servant criterion has little do with accidents. Unaccompanied by qualitative analysis, ex-post statistical evaluation is not enough to prove a causal link. Its conclusions heavily depend on data that might well be acquired on other criteria. We are led to believe there are relationships that support a generic class whereas in fact the causal link is missing. This multiplicity of influencing factors makes decisions impossible. Conduct itself cannot be a usable tariff criterion. In sum, we must conclude that isolated scrutiny of all loss predictors mentioned here has so far failed to meet the demands of the German Federal Constitutional Court. And this conclusion applies all the more for the criteria used so far.„

(2) Contribution fixing and classification (the search for risk and hazard criteria and measurement of their influence on risk and risk-endangering)

Statistics are not only used in the search for risk criteria, but are also used for measuring their influence on the size of risks and the degree of its endangering so as to allocate the contribution need to contribution classes and individual insureds in accordance with the insurance technical equivalence principle – that is, to reflect individual risk. The only risk attributes that are admissible for use as tariff criteria are those whose influence on causing a damage and/or its size can be measured. Any other approach would be objectively discriminatory. An example:

- It is probably easy to prove with statistics that timber houses burn more easily and, one would assume, more thoroughly than houses built of stone. The material with which a house is built is thus a suitable tariff criterion that can be ascertained for all houses.
- The next step for tariff design would be statistical analysis of the effect timber or stone construction has in the event of a damage. If timber houses were shown to catch fire twice as often and suffer on average 50 per cent more damage than stone houses (of the same value), the insurance contribution or contribution rate for timber houses would be three times that for stone houses.

Let us assume an insured community for home fire insurance with two homogeneous tariff classes (timber and stone houses) whose insurance contributions are set in accordance with tariff criteria that can be ascertained for each risk and have a measurable influence on the occurrence and size of any damages. If insurance companies would not take into account the identifiable and measurable relationships between risk characteristics and would simply apportion the loss expenditure to arbitrary groupings, or to apportion it evenly amongst the various risks, the result would be discrimination.

d) Group statistics based on loss expenditure run contrary to insurance techniques and all rules of statistics

The cardinal error in the statistics applied to motor liability insurance tariffs is that, by classifying policyholders by loss expenditure:

- They elevate group criteria to the status of tariff criteria without examining their influence on the occurrence and size of motor liability claims.
- They apportion the loss expenditure for the entire group across all group members.

Error No. 1: The insurance technical equivalence principle forbids tariff criteria that do not have any influence on the occurrence or size of a damage. In any case, criteria that only exhibit a statistically significant correlation with the loss expectation of a group cannot be used as tariff criteria. Arbitrary criteria of this kind lead to discrimination.[62] In Germany, this view is held by the Federal Government, the *Bundesrat* (the

62 US industry functionaries no longer contest that individual policyholders are discriminated against as a result of criteria-based classification, but describe this discrimination as valid, fair and also necessary because of competition.

representation of the federal German countries),[63] the Federal Administrative Court[64] and the Federal Insurance Supervisory Office[65]. In *Bundestags-Drucksache* 12/6959 (p. 136) we read:

> „The Federal Government and the *Bundesrat* agree that tariff design in motor liability insurance must be based on *factors relevant to risk* and that *nationality in itself is not a risk factor*. However, the Federal Government does not consider it opportune to pass legislation banning the use of this criterion for risk assessment without also banning *other arbitrary* classification and risk assessment practices.„

However, a new section 81e was added to the German Insurance Supervisory Act in 1994:

> „Abuses within the meaning of section 81 para. 2 also include tariff terms and premium calculations relating to the nationality or ethnicity of the policyholder or insured.„

As long ago as 1979, the Federal Insurance Supervisory Office rejected a special tariff for foreigners on grounds of discrimination even though statistics show loss expenditure to be higher for foreigners as a group.[66] The Supervisory Office (loc. cit.) rightly noted:

> „In accordance with the principles of sections 8 and 9 of the Compulsory Motor Insurance Act (*Pflichtversicherungsgesetz*), the activities of the tariff approval authority are to be directed towards *the concerns of all policyholders* (Federal Administrative Court, *Veröffentlichungen des Bundeaufsichtsamtes für das Versicherungswesen* 1968, 278/280). Classification of policyholders must be viewed in the same light. As section 8 para. 2 sentence 3 (2) of the Compulsory Motor Insurance Act expressly states, car owners who are compelled to have motor liability insurance have an interest in an appropriate balance between contribution and 'insurance performance'. This places the supervisory authority under a general obligation to observe that this balance is maintained *in the interests of all insureds*. If the petitioned tariff loadings were to be approved, the interest of foreign policyholders in insurance cover at an appropriate contribution would no longer be met. The reason for the higher loss expenditure incurred by foreigners as shown by the statistics is not to be found in policyholders' nationality. Nationality as such is thus unsuited for use as a subjective risk criterion within the meaning of the Tariff Order (*Tarifverordnung*). Finally, the introduction of the contribution loadings would result in *further fragmentation of risk groups*.„

In its decision, the Federal Insurance Supervisory Office conceded that „the subjective risk criteria currently used for motor liability insurance tariffs are not immediately causative of risk.„ The reasoning accompanying the decision also shows that the petitioning insurance companies likewise admit deviations from standard insurance techniques in statutory motor liability insurance. The insurance companies' complaint is presented as follows in the reasoning for the decision:

> „In the literature and in tariff practice, the concept of a risk criterion defined in section 7 para. 2 of the Tariff Order has *never been construed such that there*

63 *Bundestags-Drucksach*e 12/6959, p. 136.
64 *Versicherungsrecht* 88, 820 (also in Veröffentlichungen des Bundesaufsichtsamts für das Versicherungswesen 88, 372).
65 *Veröffentlichungen des* Bundesaufsichtsamts *für das Versicherungswesen* 9/84, p. 331
66 At the same time, the Supervisory Office overlooked the fact that the regional and occupational criteria are likewise based merely on statistical differences between groups of insureds.

> *must be an immediate causal link between a risk criterion and the insured risk*. It is sufficient to establish *risk groups* exhibiting the risk criterion at issue. In motor liability insurance, subjective risk is ascertained with reference to criteria that defy objectification. As the quality of a driver cannot be measured, other criteria ought to be used in tariffs.„

The Federal Administrative Court confirmed the Federal Insurance Supervisory Office's decision rejecting the insurance companies' complaint, stating:

> „…a tariff criterion cannot be founded on statistical significance alone; instead, any criterion that is to be deemed suitable for use by insurance companies in designing tariffs that accurately reflect risk must be such that the accepted risks exhibit, to a high degree of concordance, the circumstances that are truly material to them.„

Error No. 2: Attributes of property or people are (arbitrarily) elevated to the status of tariff criteria that have no influence on the occurrence or size of a damage prevents statistics from carrying out their most important task: that of ascertaining, in accordance with the insurance technical equivalence principle, to what extent those attributes of the insured risk on which the tariff criterion is founded determine the occurrence and size of a damage. The creators of our present motor liability insurance tariffs go no further than comparing and apportioning the loss expenditure of risk groups:

- They do not even take the first step of finding out *if* the tariff criteria they have discovered represent attributes of the insured risk that influence its size and the degree of its endangering.
- Thus they certainly cannot take the second step, important in contribution scaling, of ascertaining *to what extent* the attributes of the insured risk on which the tariff criterion is founded determine its size and the degree of its endangering.[67]

Error No. 3: The statistically ascertained differences in loss expenditure between groups are not in themselves a suitable means of deriving tariff criteria. Tariff criteria must relate to risk. It is a basic rule of statistics that they must be founded on logic. In 1990, *Professor Richard Struck* stated in an opinion for the Bund der Versicherten:[68]

> „As a matter of principle, statistical calculations must always be accompanied by qualitative analysis of the subject under scrutiny. If the statistical calculations show quantitative differences or a correlation, this does not necessarily mean such differences or indeed causal linkages exist in reality. Examples of nonsense correlation abound. Any classification of drivers by region or occupation must be justified not by statistics but by objective proof. Such proof would appear unattainable with regard to a classification by region or by membership or non-membership of the civil service, since in my view membership of a particular group does not permit any conclusion to be made regarding an individual driver's conduct, and it is this which is the deciding factor for a liability insurer.„

67 To this extent it is wrong and misleading for representatives of the German supervisory authority to say (written statement of *Schmidt-Hidding* and *Teske* in the Leuven conference folder, 3.2, p. 1), „the *ex ante* statistical probability of a claim occurrence were more or less the same for all group members„, thus propagating the view or suggesting that group members are equal risks with regard to the hazard of causing a motor liability claim and must accordingly pay equal premiums.

68 Also see *Küssner*, Footnote 61 above.

Error No. 4: The outcome of the incorrect use of statistics – the fact that loss expenditure is apportioned evenly over a contribution class – does not comply with classification techniques; instead, it complies with the principles of forming insured communities.[69] A tariff class should not cover its own loss expenditure. This is the job of the – in this case national – insured community. With many types of insurance, some contribution classes comprise only a few insured risks. It would be senseless to require that the few insureds in such a tariff class cover their own loss expenditure. This would come very close to insured people paying their own losses, and runs contrary to the principle of insurance. Losses incurred by a specific class (such as timber houses) should only be used to ascertain *whether* and *to what extent* the applied criterion (in this case timber construction) affects the occurrence and size of a damage.

Error No. 5: Inappropriate cross-subsidization arises. The advocates of current tariff structures admit that there are good and bad drivers in all tariff groups, but not in the same numerical distribution.[70]

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69 Any apportionment of claims expenditure to a group creates a new insured community (that must meet its own loss expenditure). In fact, premium-insurance statisticians have taken the initial question, „What determines the occurrence and extent of a motor liability claim and what criteria relating to the hazard of causing a motor liability claim can be objectively ascertained and used in assessing each applicant and each insured?„ and have perverted it into „What group criteria exist that allow a premium-insurer to influence the results of its premium insurance activities (that is, the aleatory compensatory transactions it engages in) by the selection and anti-selection of specific groups?„ Activities (1) through to (5) listed under (cc) above are not part of tariff design in premium-insurance. The total need of contributions required from the insured community are apportioned to policyholders not in accordance with the insurance technical equivalence principle (see p. 35 above), but with the principle that every policyholder in a group with a different loss expenditure from that of other groups must pay a premium equal to the average loss expectation evenly apportioned among all group members. At the beginning of the study commissioned by the German Insurance Association, the equivalence principle is stated correctly: „Every insurance technical unit must be charged the premium rate that reflects its individual risk.„ 150 pages further on, the following passes for an equivalence principle: „The premiums for homogeneous risk subsets must match its respective loss requirements.„ We need not comment further that these two tariff design methods have nothing in common and that it is all but amateurish to describe these two intrinsically different methods as one and the same principle. No other insurance sector uses the distorted equivalence principle used by motor insurance companies. Under this principle, the group is not – as the contribution class is to tariff classification – an aspired-for outcome, but a starting point and an outcome at the same time. Current tariff design practice does not entail a search for typical risks nor, consequently, for criteria typical of such risks from which the size of the risk and its endangering can be measured. Insured risks are not grouped into contribution classes by its size and the degree of being endangered. Thus, insurance contributions and contributions rates for the various groups are not set in accordance with the different size of the individual and the different degree of its endangering. When someone applies for insurance, the size of the risk to be insured and the degree of its endangering is not even assessed. The insured is thus not assigned to a contribution class, but to a (fictitious) insured community with a specific loss expenditure and so pays a premium that does not reflect his or her individual risk*. US Senator Metzenbaum* critizised precisely this at a Senate hearing: „There is the right of the individual and the ability of the individual to be able to obtain insurance without unfair discriminatory practices. I think it is the discriminatory practices that we are asking you to justify. It is the question of occupational discrimination. The question is: Do you think the insurance industry is fairly treating the American people. The question is this. *Are you rated as an individual*?„ *Insurance Commissioner Stone* supplements this question with the comment, „If you can prove to me that someone is the average person in the group, then it is all right for them to pay the average rate for the group.„ Also see Footnote 70, below; *U. Meyer*: Every tariff class (such as young people) contains a wide range of risks in relation to causing a motor liability claim.

70 *Professor U. Meyer*, see Munich workshop file, 4.1 p. 5: „This kind of tarification is appropriate as to the risk assessment of a group of insureds comprised in a tariff class as a whole. The group loss expectation corresponds to the premium yield of the group. But each individual tariff class consists of insureds with definitely very different risks.„ A May 1979 report from the US makes these differences clear: „The elimination of the present rating criteria implies that approximately 83% of the insured motorists (the adult drivers) will have an average increase of 16% in liability premiums to compensate for the 39% decrease

If premium-insurers admit that they classify groups, then we must ask them whence, as companies charged by the state with organizing compulsory insurance, they derive the right to decide for example that the inhabitants of Leipzig or young people must meet their own losses such that the good risks in such groups are left to subsidize the bad drivers on their own. Because the current tariff structure with its classification by loss expenditure creates multiple insured communities, nationwide cross-subsidization among all compulsorily insured car owners – something that should exist as a matter of course – no longer holds. The fragmentation of the nationwide insured community means that the good risks in tariff groups with high premiums not only subsidize the bad risks in their own groups, but also (nationwide) both the good and the bad risks in all the other low-premium groups.

The argument that inappropriate cross-subsidization between tariff groups would arise if they were not classified by their average losses is nonsense because, for example, the entire driving population of Leipzig would always pay more under every tariff system than other groups, since even with tariff design by the insurance technical equivalence principle Leipzig always has more ‘bad risks’ paying correspondingly higher premiums.

e) Starting points for a risk-related tariff design system

It is not the aim of the current project to make proposals for a new tariff design system. We will, however, highlight specific aspects – which would of course require further refinement in a later project – to show that it is indeed possible to develop a tariff design system that at least more closely reflects real (individual) risks than the system used to date.

The objective of motor liability tariff design should be to group together drivers who are similar in their driving conduct, have vehicles that exhibit similar levels of road safety and similar performance, and use their vehicles in similar geographical areas. Taking the example of driving conduct, this could be achieved by using six contribution classes:

1. Claims-free drivers and drivers who have given rise to a liability claim as a result of a momentary lapse or of a vehicle defect for which they are not to blame.

2. Claims-free drivers with certain driving convictions.

3. Drivers who have given rise to a liability claim as a result of negligence but have no driving convictions.

4. Drivers with certain driving convictions who have given rise to a liability claim as a result of negligence.

5. Drivers who have given rise to a liability claim as a result of gross negligence but have no driving convictions.

6. Drivers with certain driving convictions who have given rise to a liability claim as a result of gross negligence.

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given to the remaining 17% of higher risk drivers. Specifically, all young single male drivers (10% of all insureds), the young single female drivers (4% of all insureds) and the young married male drivers M of all insureds) will have a decrease in their liability premiums of 48%, 24% and 17% respectively.„

A classification of this kind could be drawn up by analysing claims records and allowing for driving convictions (in Germany for example using a system of points classified and registered by the *Kraftfahrt-Bundesamt*). This would be the reverse of the present system: instead of drawing conclusions as to driving conduct from the number of years a driver has remained claims-free (the bonus system), conclusions as to the insured risk would be derived from actual claims. The classification of claims by momentary lapse, vehicle defect, negligent conduct and grossly negligent conduct should not present a problem since liability claims are already assessed and established in this way by the courts with regard to establishing strict liability or contributory liability. Disputes regarding classification could be arbitrated by an ombudsman.

Allowance could additionally be made for driving conduct by applying a mixture of *a priori* contribution differentiation and an *a priori* tarification by experience: charging all holders of compulsory motor insurance – including those with a claims-free record – an advance loading that can be withheld as a 'malus' or demerit in the event of a claim and otherwise remains as 'credit' in favour of the insured (an *a-priori* malus system).[71]

The same effect could be achieved by using tariffs incorporating a policyholder excess, as a German insurance company has recently begun doing with motor liability insurance. The € 1,000 excess is saved up by paying regular instalments into an investment fund. The savings agreement is linked with a guaranteed offer of a loan in the event that the excess has not yet been accumulated on the savings account at the time of a claim. The excess reduces insurance contributions by about 30 per cent.

There are already retroactive attempts to correct hitherto unidentifiable aspects of the insured risk, such as the possibility of insurance companies reclaiming up to € 5,000 in the event of drunk-driving or use of the vehicle other than in accordance with the agreed terms (in Germany under the Compulsory Motor Insurance Order (*Kraftfahrzeug-Pflicht-versicherungsverordnung*). Such opportunities for recourse could be extended to liability claims resulting from driving with the insured vehicle in another (identifiable) poor condition.

Insurance contributions could be fixed – as they already are – by the estimated annual mileage stated by applicants and annually by policyholders.

Contributions could also be set according to the probable area of use, which is not simply assumed from the driver's place of residence but stated by applicants and annually and/or during the year by policyholders.

Further tariff criteria could include the model and year of manufacture of the vehicle, as shown in the vehicle papers, though only with regard to the vehicle's technical equipment and road safety.

It should be borne in mind that in this method of tariff design in accordance with the insurance technical equivalence principle, the aim is not to apportion group loss expenditure among group members but to measure individual differences in risks and hazards.

It should also be borne in mind that it is erroneous to suggest, as many do, that insurance contributions must exactly meet the total loss requirements of a conribution class or an insured community. Nobody in the past has been able to deliver an accurate forecast of the total insurance contribution need to be provided by the nationwide insured community. Insurance companies have thus always applied contingency loadings from

71 See the 1994 proposal of *H. D. Meyer* in *Versicherungswissenschaftliche Studien* Vol. 1, p. 163.

which funds are allocated to provisions and reserves. The implementation of an insurance technically correct tariff system in compulsory motor insurance requires legislation stipulating that the tariff structure and pure insurance contributions are to be set in a uniform manner, and how this is to be done (with the ability to diverge from the basic structure with additional modules, as for additional voluntary insurance). Pooling of pure insurance contributions must likewise be stipulated to equalize differences of excess and deficient cover in compulsory motor insurance resulting from the differing composition of risk portfolios (e.g. speciality insurance companies).

Models of this kind, which roughly correspond to the Japanese system, are not a form of „communist-style uniform insurance„.[72] As outlined above, the contributions paid by compulsorily insured car owners are not uniform, but are scaled according to driving conduct, mileage, area of use and vehicle model. Claims-free drivers do not pay 'no contributions', as is repeatedly maintained by some who hold onto the existing tariff system and take as their starting premise the – insurance technically incorrect – apportionment of loss expenditure or need of contributions among the various groups. And drivers with prior claims do not pay the entire amount of their own claims but, as is usual in insurance, are cross-subsidized in like manner by claims-free compulsorily insured car owners.

III. Summary

After the foregoing discussion, it is highly questionable that the assumptions applied by all involved in the creation of legislation and case law are right; for example:

- that insurance is a product or a service of insurance companies;
- that insurance premiums are the 'price' for the output of insurance companies' economic activities;
- that the surpluses on premiums which arise in the compensatory transaction known as premium-insurance and which can be influenced primarily by the selection of groups of insureds constitute the 'earned profits' of premium-insurers;
- that insurance tariff design is comparable with the pricing of products and services;
- that insurance companies could reduce total loss expenditure of compulsorily insured car owners by tariff design and the selection of groups of insureds;
- that compulsorily insured car owners are equally and justly treated and charged with regard to tariff criteria and their effects on the contributions to be reallocated;
- that there could exist an insurance market and competition for 'insurance', an income redistribution procedure, such that the 'self-clearing market' would result in appropriate premiums or insurance contributions;
- that car owners, compelled to have liability insurance, could have freedom of choice and could find insurance cover at an appropriate contribution level and the associated services at an appropriate price;

72 *Vollbrecht* in the Leuven conference folder, 3.4, p. 7

– that it is in line with standard insurance techniques to ascertain the individual risk of a policyholder by apportioning him or her the average loss of a group of insureds whose loss expenditure differs from that of other groups;
– that a compulsory form of insurance accords with the equality rule when similar car owners pay different insurance contributions – according to their membership of a group whose loss expenditure differs from that of other groups; …

We should assume instead:

– that insurance (the provision and reallocation of funds) is a performance of the insureds themselves, and that insurance (service) companies undertake the organization of this activity (calculation of insurance contributions, tariff design, collection, reallocation and investment of policyholders' funds) as a managing service on behalf of the insureds;
– that tariff design is a service to be performed in the interests and on behalf of the insureds by mutual or listed companies charged by the state with the task of organizing the community of the compulsorily insured car owners;[73]
– that in compulsory insurance, legislation on contribution fixing and classification is necessary and admissible – and in fact already exists in many EU member states – to prevent discrimination, since such legislation only impinges on insurance activities – which are not subject to competition – and not to service activities;[74]
– that the issue of proportionality does not even arise, as statutory tariff design standards do not constitute intervention in service activities or the freedom of insurance companies to engage in them, and hence will not impinge upon insurance service companies in any way;
– that the effective non-negotiability of motor insurance policies creates market power and creates an imbalance between the contracting parties, and that tariff freedom unleashes additional power factors (profit interests, selection competition and competitive rivalry) that leave open the way for unequal treatment in the face of which the consumer is entirely powerless;[75]
– that tariff freedom for insurance companies significantly curtails the individual freedom of choice of applicants for compulsory insurance and results in discrimination;
– that it is in line with standard insurance practice when an insured's individual risk is determined based upon typical risk and hazard criteria that can be ascertained among all insureds and are capable of influencing the size of the insured risk and the degree of ist endangering;

73 See *Schünemann*, Appendix 3 (short study on *Competitive Aspects*), p. 17.
74 See the *German Federal Administrative Court* Decision of 17 May 1988 (with further references, see Footnote 64 above; *Versicherungsrecht* 88, 820 and *Veröffentlichungen des Bundesaufsichtsamtes für das Versicherungswesen* 88, 372), on tariff intervention forbidding the approval of a separate tariff class for foreigners: „This decision is justified by sufficient reasons relating to the common good, are suited to the attainment of their intended purpose, and fulfil the criteria of reasonableness towards insurance companies; they thus satisfy the requirements that any a control on the exercise of a profession must meet in order to be deemed constitutional and do not infringe Art. 2 para. 1 of the German Basic Law protecting freedom of economic activity and the freedom incorporated therein to take part in market competition.„
75 See *Professor Bryde*, Munich conference folder, 3.10, p. 5.

- that deregulation and the consequent tariff freedom – at least in a compulsory insurance sector – was a mistake;[76]
- that premium-insurers must no longer be allowed to operate lump-sum premiums and must instead split them up and state prices for their services, and that no such price information has yet been forthcoming;
- that competition surrounding insurance company services is not possible without price quotation, and only becomes possible when the price of such services is quoted;[77]
- that legislation is needed obliging insurance service companies – at least as regards compulsory insurance – to state prices for their services;
- that only tariff design and contribution standards (combined with a statutory obligation to insure) and the disclosure of a service price can guarantee the ability of consumers to fulfil their interest in appropriate insurance contributions and reasonable service prices; …

IV. Proposals for action by the EU Commission

The *Bund der Versicherten* proposes that the EU Commission should commission neutral social scientists with an investigation of the economic processes associated with insurance. According to the outcome of such investigations, it may prove necessary:

- to review and where appropriate to amend the existing EU insurance directives;
- as appropriate, to enact new directives on motor liability insurance;
  - with provisions on tariff design and contribution fixing;
  - with provisions establishing institutions or a European institution keeping community statistics for the ascertainment of tariff criteria, insurance contributions and 'country factors'[78] in respect of compulsory motor liability insurance;
  - and with provisions establishing a (reinsurance) pool to equalize excess cover and deficient cover in claims settlement resulting from differences in the composition of risk portfolios between insurance service companies;
- to review and where appropriate to revise existing and planned measures against member states in connection with motor liability insurance terms and tariffs.

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76 It seems counter-intuitive at first sight to talk of a curtailment of drivers' freedom with reference to legislation that released contribution calculation from state control. First of all, however, we must bear in mind that each individual driver had a right to a premium that has been set and examined in his or her interest (under the former section 8 para. 2 of the German Compulsory Insurance Act and section 9 para. 1 of the Tariff Order). Since deregulation and tariff freedom, consumers have been deprived of this right. As isolated consumers without market power, they must each acquiesce to the premiums the insurance companies offer them; and premiums are no longer set in the interests of the consumer, but in the interests of companies who wish to profit from the compensatory transaction known as premium-insurance and are able to influence their profits by selecting specific groups of insureds. As a result of this selection, the group selection criteria do not bestow freedom; on the contrary, they increasingly curtail individual freedom and, taken to the limit, leave the individual driver with a tiny cell that represents his or her 'market'.

77 See *Schünemann*, Appendix 3 (short study on *Competitive Aspects*), p. 14.

78 If a pan-European insured community with pan-European tariff structures were to be created for compulsory insurance, differences in the average loss expenditure of member states could be allowed for by using a 'country factor' derived from cost differences (e.g. for repairs and post-injury care) and differences in the law (e.g. regarding liquidated damages and compensation for loss of use). The factor ratio between Spain and Germany, for example, would be approximately 1:3.

Such an investigation could also lead to new findings:
- for the ECJ regarding issues surrounding services and competition in the European insurance sector;
- and for the EU Commission and the member states regarding the taxation of insurance premiums and insurance (service) companies.

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