

**University of West Hungary
Faculty of Economics**

**Expenditures and economic efficiency of the
hugarian accident insurance practice
in an international context**

Ph.D. thesis

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Supervisor's patronizing signature

1 Work History, Objectives Set

1.1 Preliminaries

In the period that has passed since the change of the regime in Hungary, all governing political forces have dealt with the thought of a health care reform and they also took steps to implement that. In the political alternate economy of democracy, due to the short cycles, it was health policy reforms bringing returns only in the long run that could neither be enforced at the proper level nor fully implemented as to their effects.

While the governing forces elaborated their programmes along conceptionally different value orders, astonishingly, the thought of a multi-insurance model – though in different interpretations but for certain period of time – was included in the programmes of all political forces. The topic of the health care reform is extremely timely worldwide. It is especially timely in Hungary with respect to the fact that following the change of regime demographic and public health data deteriorated, while in the financing of health care, under the title of improving economic efficiency, there is a financing of ever-decreasing real value to be observed, regarding its tendency.

The reason for and the topicality of the research of the insurance practice related to work accidents and occupational diseases are being integrated along this logical line. Work accident insurance, regarding:

- the organisation of related provisions,
- the options of potential and actual financing techniques, and

- the individual responsibility of the insured persons and the possible assessment of taking responsibility proportional to the risk assumed by them

shall be strongly separated from other areas of health care. If you like, accident insurance alone fits to be “the other insurance company” even in a multi-insurance model organised by the state and is even able to achieve additional resource integration with justifiably reason, or freezing of expenditure through a controlling mechanism for the special field.

1.2 The target field of research

This thesis deals with summarizing the actual expenditures invested in health care and accident provisions by the Hungarian accident insurance practice, and quantifying its losses occurring as lost incomes and further additional expenditures at an individual and national economic level.

This research compares the expenditures, significant and typical statistical indexes of the Hungarian accident insurance practice in an international context, and also draws conclusions. This thesis – in order to promote the practical applicability of the research results – outlines recommendations for measures and alternative solutions to allow a growth in the efficiency of Hungarian accident insurance practice and quality.

It is extremely important for this research to exclusively focus on work accidents (and occupational diseases). A work accident is an accident suffered by the employee during organised work or in relation to that, independent of their place and time and the extent of contribution thereto by the employee (injured person). Leisure time

and public road accidents shall not be the subject of this research.

2 Content, Method and Justification of the Research

2.1 Content of the research

The main logical line of the thesis is based on the following content structure:

- I. Accident insurance: definitions, legal background and operation of the systems, sectoral features of the practice.
- II. Expenditures and opportunity cost invested in accident insurance, and its present resources, accident statistics, trends.
- III. Drawing conclusions, recommendations.

2.2 Researcher's hypothesis

The questions and the assumed responses that may be provided were the incentive to commence this research. Based on these, the **researcher's hypothesis** also became possible to be laid down and is substantially as follows: Hungarian accident insurance practice is at a low level of organisation and does not realize the advantages inherent in concentration. In a national context, the system has high expenditures, as well as financing and task organising incentives exercising an effect against the enforcement of efficiency, and even in an international context its performance is far from the expected level

regarding both quantity and quality. This problem is added to the indifference of the affected population and their attitude arising out of the low level of information supplied to them and the aim to gain permanent financial support instead of the physical and psychological recovery of the persons that suffered accidents. Due to this it may be assumed that there is an alternative to Hungarian accident insurance which regarding its product allows more health gain with a more efficient task organisation, and in which the interests of both the affected population and the national economy may be paralleled.

2.3 The method of research

The method of the research is fundamentally based on primary data processing. The basis of this thesis is formed by the analysis of the data sets of the National Health Insurance Fund Administration of Hungary (OEP), Pension Insurance General Directorate, Hungarian Central Statistical Office, Hungarian National Labour Inspectorate and EuroStat as well as the different European countries by statistical methods. Raw statistical value analysis is supplemented by different national and international scientific literature, laws, informative analyses included in the homepages of organisations, country studies, annual reports, etc... serving as explanatory factors. These were also processed in a significant quantity during the preparation of the thesis.

2.4 The justification of the method

The purpose of this research work is to fill a gap, as it is the first to use primary data in a fully comprehensive way

and to analyse them with the help of statistical methods. It is the first to quantify in its full spectrum the domestic expenditures and opportunity cost of accident insurance at the level of national economy.

3 Results

The novelty and at the same time one of the most important values of the research shall be provided by the fact that it is the first in Hungary since the change of regime to fully quantify by a unique method the state expenditures actually invested in accident insurance provisions, and other expenditures affecting national economy that occurred related to the accidents or as further (indirect) expenditures or freezing of incomes. The scientific value of the research work is the applied methodological and statistical procedure which shall be presented in the thesis in detail.

The scientific value of the research work is enhanced by the international outlook as well as the analysis of options and consequences. However, the principal scientific value of the research work shall be found in the applied methodology, which basically means primary data processing by means of statistical methods. The option of the further use of the thesis – in practice – fits into this, which aspect predominantly affected the decision to choose the research field.

3.1 New scientific results

Expenditures and opportunity cost of Hungarian accident insurance practice were extracted item by item from primary information technological record systems and

via the processing of data accessible in other data resources. Their analysis, comparison

Direct expenditures of accident insurance may be divided into the following items:

- Expenditures of health care services rendered due to accidents (provisions in kind),
- Amounts of medicine, medical aid support, travel support,
- Accidental sick pay and allowance payments,
- Awarded disability pension.

Main items of indirect opportunity cost focussed by the thesis:

- Decrease in the GDP due to changes in incomes,
- Lost tax and allowance incomes of the state,
- Changes in consumer habits.

Expenditures are shown and analysed not only in total value, but projected to one single case as well, and then they are also compared in an international context in the paper.

3.1.1 Expenditures and opportunity cost

The direct expenditures of Hungarian accident insurance – despite its decreasing tendencies – in 2010 exceeded HUF 67 billion, and with opportunity cost included the amount of HUF 79 billion. This amount itself is almost the same as the total annual budget of the greatest Hungarian medical university, i.e. Semmelweis University. Although the direct and indirect expenditures of almost HUF 80 billion only represent 5.62% compared

to the gross sum of expenditures of the E-Fund in 2010 calculated at current price of HUF 1,423,898,300, however, it still exceeds for example the total gross sum of the budget line for GP expenditures, and it is almost four times as much as the total operational expenditures of OEP or the expenditures of ambulance service!

In Hungary it is doubtful for the injured person whether they have a real alternative between financial provisions (compensation) and adequate health care provision providing results, and the related lifestyle rehabilitation and connected insurance services. This statement is supported by figures from a financial aspect. In Hungary, financial expenditures (compensation), expressed in figures, are 13.6 times greater than the expenditures spent on (health care) provisions in kind.

Among financial expenditures in 2010 pharmaceutical drug price subsidies represented only a total of 0.1% (!), medical aid subsidies only 17.9%, whereas accident related sick pay involving actual "income type" cash payments was 82% (!). Regarding the entirety of social security expenditures, also including pension type provisions the shift of proportions is even stronger. Here the expenditure of effective health care provision itself represents the smallest proportion, only 2.2% (!), whereas financial type payments account for the remaining part! Within social security expenditures in 2010 the expenditure of health care provision was only 2.2%, whereas that of financial health care expenditures was 30.5%, and the remaining 67.3% was spent on pension type expenditures.

This statement at the same time means that the disability of Hungarian accident insurance practice, as a system, is

decisively based on cash payments. This means that citizens prefer payments due as per the law and consider those as income, even as regards their physical/psychic recovery. To rephrase it, the current accident insurance practice itself provides absolute prevalence to financial compensation, rather than to give preference to the rehabilitation of the individual, to their re-integration into a whole person. It is likely that on the basis of “for lack of something better” the society concerned has learned to live with this, and in the absence of a choice alternative they do not only expect to receive the cash items arising out of their accident, but they also rely upon them as income.

As an economic characterisation of Hungarian accident insurance practice, by interpreting the expenditures and opportunity cost of the system from both the aspect of industrial administration and cash flow, the following may be stated:

1. The number of work accidents has shown a decreasing tendency in the past couple of years in Hungary. However, the number of work accidents reported is only a fraction of the numbers of cases in Austria and Switzerland, which may be interpreted as sign indicating the non-reporting of accidents and thus the unreliable nature of data.
2. The social security expenditure related to new work accidents incurred each year amounted to HUF 9.2 billion in 2010, however, it demonstrates a slow decreasing pace between 2001 and 2010, the extent of which is 12.08%.
3. The direct expenditure from a cash flow aspect of Hungarian accident insurance practice for a given year

exceeded HUF 68.5 billion in 2010, which almost equals to the 2010 annual budget of Semmelweis University.

4. Opportunity cost lost income from taxes and contributions, decrease in GDP imposed upon the national economy in relation to the accidents exceeded HUF 11.3 billion in 2010, even based on cautious estimations.
5. Expenditures of social security care due for one work accident – probably mainly as a result of the decrease in the number of cases – show a small-scale increasing tendency at real value. From 2001 to 2010 its growth rate reached 34.5% from a cash flow aspect, and 12.55% from the aspect of industrial administration.
6. Expenditures of the cases amount to only one fourth of the those in Austria and Switzerland, but the composition of the expenditures shows great differences. While the compensation expenditures (annuities) with regard to the those in the Western countries reach a value of approx. 70%, this proportion is 98% with regard to the expenditures in Hungary. (!)
7. Overall, in 2010 the national economy is directly and indirectly affected by an amount almost reaching HUF 80 billion already, as a consequence of known work accidents reported to the authorities.

3.1.2 International comparison

Hungary's data were compared with those of Austria and Switzerland, due to their similar European cultural roots, the almost identical size of the countries and number of

inhabitants, but with their different political history taken into account.

1. The number of work accidents in Hungary (23,971) amounts to one fourth of the work accidents in Austria (107,287), and one tenth of those in Switzerland (257,246). The most likely reason for this is that in Hungary the majority of work accidents is not reported.
2. Expenditures of a case remains well below those in the Western countries
 - a. just taking the expenditure of subsistence into account, this item barely amounts to one fifteenth/one thirtieth of the “Western” expenditures – because in Hungary persons injured receive care that is significantly more modest as to quantity and quality.
 - b. also including the financial support disbursed by the Social Security system, the expenditure per case still amounts to one fourth (EUR 3,651 per case) of the expenditures paid in the West (EUR 12,314 and EUR 12,985 per case). The explanation for this may be that in Hungary both the population and the financing state rather focus on cash benefits, which basically results in much less health gain at national level.
3. There is a tendency of a decreasing number of cases from year to year in Hungarian statistics, which corresponds to the trends in the Western countries. Since the period under review coincides with both the period of the Hungarian domestic economic crisis and that of the world economic crisis, these periods, due to

their characteristics, show decreasing tendencies pertaining to accidents anyway.

4. In 2005, the accident insurance related total national economic burden of HUF 85 billion constitutes only 0.386% of the GDP calculated at the current price of HUF 22,027 billion, as compared to certain estimates that calculate with a national economic burden of even 4% of the GDP in international relations. The reason for the optimistic Hungarian figure is due to the data calculated based on the principle of cautiousness. Due to the relatively unreliable nature of the data sources, the paper calculates with significantly underestimated data, and due to that several expenditures cannot even be expressed in figures.

4 Conclusions and Recommendations

By reviewing the expenditures and results of Hungarian work accident insurance practice, the estimability thereof in international relations, as a substantial conclusion of the research work our recommendation may be the establishment of an independent, responsible accident insurer functioning as an individual legal entity, but – justified by the urgency of the matter - of at least one work accident insurance branch with fully independent economic management.

In the current Hungarian accident insurance practice, prevention and special rehabilitation are practically entirely missing. The accident insurance functions are divided between various organisations, and they are not connected in each case to data supply and administration that is fragmented and sometimes not regulated. The

tasks of the institutions and chief authorities are uncoordinated in every direction, because accident insurance has no responsible “owner” at the moment. The situation is clearly characterised by the following statements:

1. We do not have authentic information available about the actual number, severity and epidemiology of accidents acknowledged as occupational accidents due to the deficiencies of the reporting system and the non-reporting of events.
2. The accident insurance incorporated into health care insurance does not contain any kind of risk element.
3. The substantially problematic practice of indemnity claims based upon the responsibility of the employer does not provide for the compensation of the subsistence expenses of work-related health damages, at the same time it creates disincentive on behalf of the employers with regard to the display of accident events.
4. The prevention system of work accidents and occupational diseases is built upon regulation, control and sanctioning by the authorities, which is unable to considerably influence the situation regarding labour protection due to low law-abiding morale, the high number of units to be controlled, and the shortage of control capacity.
5. After the change of regime the economic structure was transformed radically, the number of employers increased to a multiple of the number of employers before, and the number of employees decreased significantly.

6. Occupational health care reaching (or exceeding) the standard of developed industrial countries from a professional and scientific aspect was basically established/developed.
7. The problems of health care, the prolongation and inefficacy of medical treatment incur additional burdens and additional losses in the case of the employed population, for both the individual and society.
8. In the current social security practice compensation care is predominant.
9. It is the primary interest of the employer to have a uniform, physically and mentally conditioned, permanent workforce available.

Overall, as to the approach from a medical aspect of the answers to accidents this means that the range of supply (the therapies and medical-technological tools applied) should be adequately tailored to needs. In the establishment of an efficient accident insurance system, the most feasible way would be to have a special national insurer or insurance branch to be specialised in this. The task and, subject to that, the results expected can only be achieved efficiently through an appropriately professional, specialised, strongly focused organisation with a delimited scope of responsibilities. Expenditures and opportunity cost shown in the entirety of the study (in 2010 burden almost amounting to HUF 80 billion, calculated at current price) are able to support, in themselves, the economic justification of an independent accident insurance organisation. The independent organisation:

- Acts as the responsible owner of accident insurance processes.
- Collects, and would systemise and analyse accident insurance data in one centre.
- Based on the conclusions to be drawn from the data, provides a proposal for the labour safety and accident insurance strategy.
- Implements a differentiated (risk based) bearing of burdens (payment of contributions).
- Introduces a real insurance system of interest for undertakings, market players providing employment under the existence of various workplace risks.
- Offers real option of choice for the individual between therapies and service packages provided on an insurance basis.
- Implements also the option of call for funds with the help of the above (risk analysis, supplementary services, “cafeteria” system at employers).
- By its interest, the insurer puts into effect information provision and prevention, and shifts the practice of accident insurance care from the predominance of cash compensation provision to the direction of real rehabilitation activities.
- Overall, it is able to achieve more health gain, greater competitiveness, and as to its spirit a more pleased population for the nation, by efficient accident insurance.

In summary of the above it can be concluded that the management of workplace health damage cases by national social security is out-of-date. Social security does not fulfil its function – it does not implement a

bearing of burdens in proportion to risks involved, it does not serve prevention, it does not provide high standard health care, and does not support rehabilitation, although this is the basic task of accident insurance systems in place in various countries. Based on all that, the implementation of the comprehensive reform of accident insurance is an absolute necessity.

5 Author's publications in context of the dissertation

5.1 At least two article issued in lectored paper

„Model of the hungarian health-care financing practice and its effects on organizational behaviour and the state budgetray” – Health-economic Survey, 44. year 2. issue, february of 2006., pages 52-64, ISSN 0013-2276

„Wasteful Health Care” – Health Care Management, IV. year, 6. issue, november of 2002., page 87, ISSN:1585-0854.

„Challenges of controlling practice at Semmelweis University” – IME, march of 2005., pages 24-26. ISSN 1588-6387

„Role of integrated informatical solution in the process of modernizing the organizational management at Semmelweis University” – IME, february of 2006., pages 46-49., ISSN 1588-6387

5.2 At least one article issued in lectored international review

„Efficiency or cost efficiency regarding the medical care of occupational accidents?”

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Issue is in editorial process. Estimated issue: June, 2012.

5.3 At least two publications or discourses issued in conference brochure

„Efficiency of applied cleaning technology in the County Hospital Gyula Kenézy” – Scientific Congress of the Association of Machinery Industry, Hungary, Békéscsaba, 2001.

„The new conception of „hospital act” – as it seems from the local governments’ point of view” – Scientific Conference of University of Szeged, Hungary, Szeged, 6th of December, 2002.

5.4 *At least one other publication*

„On the half-way – Results and experiences of implementation of system „SAP” at Semmelweis University” – SAP Conference, Hungary, Tihany, 19th of september, 2005. (Conference brochure).

„Career opportunities for young economists in the health care sector” – Conference of the Hungarian Association of Health Care Sector’s Leaders, Hungary, Szeged, may of 2006. (Discourse).