

THE LIMITS OF INSURABILITY: THE COMMERCIAL INSURANCE BUSINESS IS AT A CRISIS POINT

HRANICE POJISTITELNOSTI: KOMERČNÍ POJIŠTĚNÍ JE V KRIZOVÉM BODĚ

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ABSTRACT

In the second half of the twentieth century, insurance was still a stable and conservative branch of the economy. In the last decades, this situation has changed fundamentally and it has forced insurers to reassess the meaning of the term “insurable risks”. The overall situation in the modern world makes it imperative to seriously consider limiting the insurability of risks by the commercial insurance business and to reflect on the future orientation of the business. The aim of this article is consider significant modifications to the insurance market, the development of the problem of current barriers to commercial insurance, the consequences of strengthened regulation of financial institutions, the increase in the level of moral hazard and negative selection, the impact the situation on the financial markets has on the business and the impact of necessary technological changes in insurance.

Keywords: *information asymmetry, limits on insurability, regulation, disaster damages, volatility*

JEL Classification: G22, G18, H12

INTRODUCTION

The complexity of today's global world, constant scientific and technical progress, which brings a high standard of living in the developed economies but which also goes hand in hand with greater technological vulnerability and increasing, but very unequally distributed wealth, all lead to social unrest and a certain level of frustration in a significant section of the population, including questioning of the legitimacy of the democratic model. These factors, together with a high level of moral hazard and negative selection in economic interactions, the digital boom and an information overload with which human beings are unable to cope, create a completely new political and economic environment. In this new environment it is commonplace for existing economic paradigms to collapse, especially those used by normative or predictive scientific disciplines. The speed of change in this rapidly changing, complex, globalised world outstrips by far the creation of new theoretical and methodological paradigms by social sciences. Consequently, without any significant theoretical support, and against a backdrop of an ever greater state regulation, the functioning of financial institutions is undergoing a fundamental change, and significant modifications are reshaping the banking and insurance businesses.

In the second half of the twentieth century, banking and insurance were still stable and conservative branches of the economy. The insurance business fulfilled its role of effectively eliminating the financial impact of those random events, which were historically declared to be insurable. In the last decades, however, this situation has changed fundamentally, especially because of the extent of catastrophic events that have led to a decline in the financial resources of the insurance business globally, and have forced insurers to reassess the meaning of the term “insurable risks”. Even if the primary consequence of permanently increasing asset values on a planet of finite size is a sharp increase in the financial volume of damage caused by natural disasters, it is the overall situation in the modern world that makes it imperative to consider seriously limiting the insurability of risks by the commercial insurance business and to reflect on the future orientation of the business; some of the significant political and economic factors are mentioned above.

It is the ambition and aim of this article to consider significant modifications to the insurance market, the specific character of the market, the development of the problem of current barriers to commercial insurance, the impact the situation in the financial markets has on the business, the consequences of strengthened regulation of financial institutions, the increase in the level of moral hazard and negative selection, and the impact of necessary technological changes in insurance.

1 STATEMENT OF A PROBLEM

1.1 INFORMATION ASYMMETRY AND THE RELATIONSHIP TO VOLATILITY

The insurance market differs from other market segments, including, in particular, the related financial sector of banking, in several basic theoretical and practical respects. The specialist community generally considers the insurance market to be a market with particularly strong information asymmetry¹. The causes of this relatively high level of information asymmetry are, on the one hand, subjective, arising from the attempts of both parties to gain a market advantage by having better information, and, on the other hand, objective, being connected with the unpredictable impact of randomness on the economic outcome of a decision, whether taken by the insurer or the insured client. From a theoretical point of view, it is of particular importance that the decision-making of both players always takes place in uncertain conditions. As both parties have imperfect information, the problem of presumed perfect information, which is a sensitive issue in classical economics, is, in this case, irrelevant. In other words, it is pointless to ask how realistic the classical economic presumption based on the idea of a “*homo economicus*” who has perfect information at all stages is.

In such conditions it is, of course, almost impossible to squeeze decision-making processes affecting insurance into a postulate of selection that is always rational. Indeed, the conflict between a human being as a multi-criteria deci-

¹ Discussion of this topic has taken place especially in connection with the awarding of the Nobel Prize for Economics for 2001 by the Swedish Academy of Science to three American economists, Akerlof, Spence and Stiglitz, for their body of work on the topic of the analysis of markets with information asymmetry. Stiglitz (1976) together with M. Rothschild dealt with the problem of information asymmetry on the insurance markets.

on-maker and the *homo economicus* of the time was described by the first behaviourist Daniel Bernoulli in his St. Petersburg paradox, which demonstrates that people cannot make decisions in uncertain conditions according to mathematical recommendations. The point of the St. Petersburg paradox can be easily applied to the decision, which, from a mathematical point of view, is not optimal, to protect against the consequences of randomness by taking out insurance. These ideas were further developed by empirical economists and cognitive psychologists led by Nassim Taleb (2014) and Daniel Kahneman (2013).

From the point of view of our research it is important that the asymmetric lack of knowledge of the choice of a strategy on the part of the random generator of negative events, whose consequence can mean a financial loss for a potential client several times greater than the insurance premium demanded by the insurance company, causes, in an overwhelming majority of the population, “risk aversion” and leads to a decision, which, from the point of view of the theory of rational choice, is not optimal, to protect against unpredictable financial consequences of randomness by taking out insurance.

On the other hand, a commercial insurance company also must deal with imperfect information when it has to set a charge for the transfer of a client's exposure to risk, in other words an insurance premium, in advance, while having available only historical data about the past choices of the random generator, which, of course, applied in past conditions, but which apply to only a limited extent in the future. The problem of predictively activating past conditions cannot be solved using exact approaches.

These facts give rise to another characteristic which the two key branches of finance, banking and the insurance business, have in common: a negative relationship to the phenomenon of volatility. Both branches are limited in their economy by the level of their potential profits, while their potential losses are unlimited. When defaults occur, banks and insurance companies often lose their assets, a loss that is felt for generations. Insurance companies, although their business and its economic result are linked to random events which are hard to predict, are, in this respect, paradoxically in a better position than banks. Above all, they have a superior accounting balance sheet structure – the assets and liabilities are more clearly connected to each other – while banks more often have to cope

with greater or smaller structural imbalances. The investment strategy of banks is usually more short-term in nature and more focused on profitability, while the investment strategy of insurance companies is more conservative and focused on a more long-term basis on the security of financial instruments.

Likewise, the significance of the business risks of banks and insurance companies is different. In the case of banks, credit risk is of key importance, while market, operational and liquidity risks are also significant. In the case of insurance companies, the most significant risk is insurance technical risk, which arises from the specific features of the insurance business connected with randomness. Indeed, this problem area also includes the issue of the level of cover for disaster risks. Another significant risk for insurance is credit risk, especially because of the possibility that a reinsurance company may fail. Market risk and operational risk are also significant, but liquidity risk is less significant in the insurance business because of the stabilizing function that has been carried out by life insurance.

Tab. 1 » Risk of bank and insurance companies

Risks of	
Banks	Insurance companies
<ul style="list-style-type: none"> - credit risk - market risk <ul style="list-style-type: none"> o interest rate risk o equity risk - liquidity risk - operational risk 	<ul style="list-style-type: none"> - underwriting risk <ul style="list-style-type: none"> o life insurance: risk of longevity, mortality risk, risk of disability o non-life insurance: premium risk, risk of technical provisions, risk of catastrophes - credit risk - market risk - liquidity risk - operational risk

Source: DVOŘÁK, P. -- KODERA, J. -- MANDEL, M. -- MUSÍLEK, P. -- REVENDA, Z. Peněžní ekonomie a bankovníctví. Praha: Management Press, 2014. ISBN 978-80-7261-279-6., DAŇHEL, J. -- DUCHÁČKOVÁ, E. Pojištné trhy : změny v postavení pojištnictví v globální éře. [Praha]: Professional Publishing, 2012. ISBN 978-80-7431-078-2.

History shows that things get complicated for an insurance company when, following the model of the banking sector, it expands its range of business to include products which are not based strictly on insurance technical calculation models, even though those models themselves are limited in their ability to predict random consequences.

The consequences of not respecting conservative insurance technical approaches have, indeed, been unambiguously confirmed in the recent past: the well-known troubles of the leading American insurance company AIG, and the defaults of the so-called monoline companies in the first phase of the last financial crisis were caused by the previous insurance of innovative derivative instruments at prices which were not set using the conservative model usually used by the insurance business.

A characteristic feature of the insurance business in this area is the high leverage originating in the low share of capital in assets; insurance companies deal with someone else's financial resources – i.e., their clients'. That is why, when investing the resources, they logically emphasise security and carefully diversify their own exposure, although, with the current state of the financial markets, that task is very complicated. In any case, it is a fact that insurance companies, despite their high level of engagement in the economy as institutional investors, did not suffer serious losses either in the first phase of the mortgage crises or during its later development.

1.2 REASONS FOR INTRODUCING LIMITS ON INSURABILITY

Over the past few decades an exceptionally sensitive problem for the insurance sector have been the gradually growing financial consequences of historically insurable disaster events. At the end of the last century, insurance theoreticians started to study more intensively the boundary in insurance practice of the commercial operation of insurance, which cannot breach the basic principle of equivalence between the income and expenditure of a financial institution, and the problem started to be discussed in greater depth in specialist literature. Since then, the problem has become even more acute. Currently, the commercial insurance business providing corporate insurance is controversially required, within the framework of the “new challenges”, to insure against environmental damage or cyber and IT risks, all of which are potential disaster cases. The inclusion of the financial consequences of disasters in the tariff models which were used a priori to set non-life insurance was, historically, always a very complex matter and it is becoming a limiting factor today. Another case is the requirement to cover the consequences of the bankruptcy of travel agencies without setting a limit

on insurance payments, although the product insuring travel agencies against bankruptcy is a non-standard product as it deals with the consequences of the business activities of a specific commercial subject, and those consequences, as experience has shown, can assume enormous proportions. Non-life insurers are most afraid of so-called unknown unknowns, which have not yet occurred and which, therefore, do not even have any historical probability which could be included in mathematical models, presuming, in any case, that those models are functional. Taleb (2014) points to the fact that when probability is very small, the errors of mathematical models increase; the rarer a particular disaster event is, the less we know about its occurrence and the less able we are to include it in any sort of meaningful prediction.

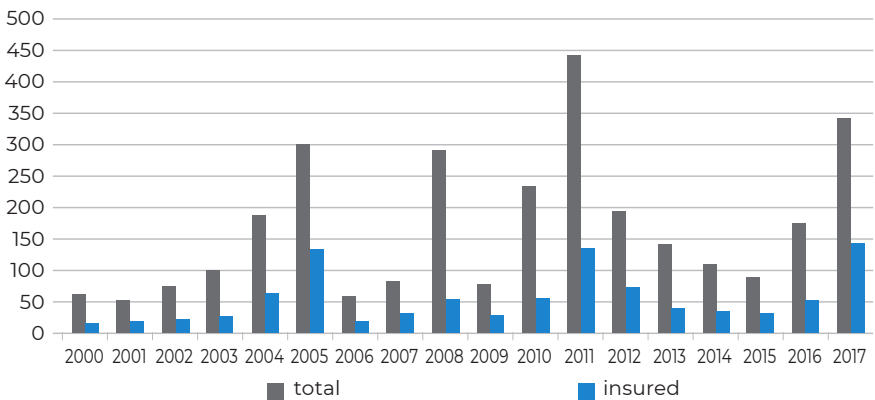
The problematic character of making judgements based on historical time series in the context of the unpredictability of Taleb's "black swans" and the impossibility of capturing them mathematically can be seen clearly in the Fukushima disaster. The nuclear power station, located in one of the world's most technologically advanced countries, was designed to withstand the worst possible disasters. The Fukushima reactor was built to withstand the worst earthquakes ever recorded in history, and its constructors did not expect any worse earthquake to occur. However, the tsunami which destroyed the power station represented a further upgrade of the "black swan". The historical data contained nothing on that scale.

In this respect, we believe that it is necessary to stress that basically the same methodological deficiency, caused by the defects of judgements based on historical data, is found in the currently fashionable stress tests of financial institutions, whose criterion is the hypothetical ability of the tested institution to stand up to the parameters of the most recent most unfavourable state of the economy. Supporters of the stress tests clearly do not take into consideration the fact that that unfavourable state must have been preceded by a less unfavourable state; in other words, the stress tests do not tell us anything about resistance to an upgrade of the "black swan".

The almost geometrically increasing financial extent of the consequences of catastrophes in our developed, but consequently more vulnerable civilization leads to a conflict in the possibility of resolving those events through commercial insurance. In that situation, the insurers have no other option but to reduce the effectiveness of insurance as an instrument for ensuring the financial continuity

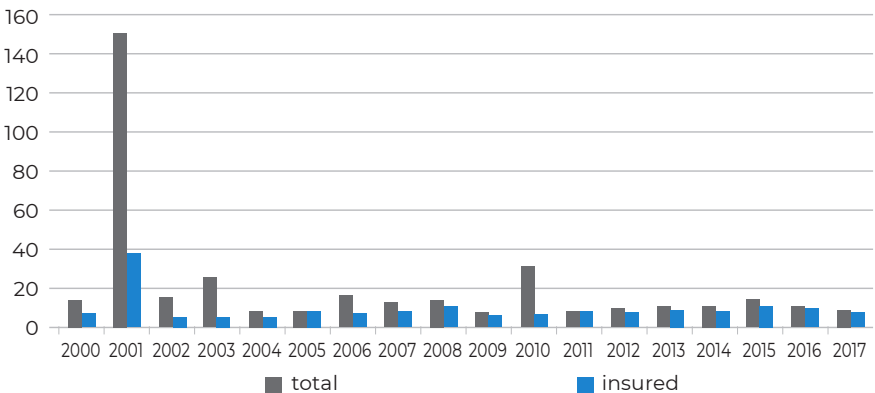
of payments resulting from random disaster events and to adjust the limits of insurability; that is, to announce exceptions from insurance cover and to set an upper limit on insurance payments. The clients of insurance companies generally regard exceptions and limits as hostile. Moreover, insurance products are not, in general, the most comprehensible for clients. The insurance market is cited in specialist literature as an example of an important market segment which functions problematically in that respect.

Fig. 1 » Natural catastrophes: total vs. insured losses in USD bn



Source: Swiss Re Institute – Internet Explorer, <http://www.sigma-explorer.com/>

Fig. 2 » Man-made catastrophes: total vs. insured losses in USD bn



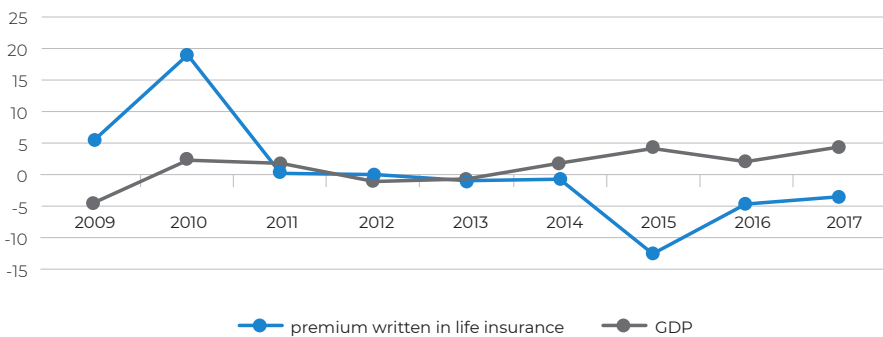
Source: Swiss Re Institute – Internet Explorer, <http://www.sigma-explorer.com/>

The information deficiency which results from the basic character of insurance activity, dependent, as it is, on the impact of randomness on its economic outcome, as well as from the business's exposure to volatility, forces non-life insurers to analyse thoroughly and consider the range of specific insurable risks they are prepared to cover, and the extent of the cover they offer. In this respect, we incline to the opinion that the construction of non-life insurance products, including tariffs, should be firmly based on the principle of equivalence and should remain within the traditional core business field of commercial insurance companies, with which they have at least historical experience. The companies should not get involved in areas with which they have no experience and where there is the risk of disastrous payments, the size of which cannot be predicted.

1.3 LIFE INSURANCE IS AFFECTED BY THE PROBLEMS OF THE EFFECTIVENESS OF THE FINANCIAL MARKETS

In recent times, serious problems have started to affect life insurance, which, because of its commercial basis, had not previously been exposed to the volatility of probability. As a result of the current ineffectiveness of the financial markets, it is completely ceasing to fulfil the secondary function of an investment instrument and a tool of post-active financing. At the same time, the possibility of security support in the post-activity period, combined with demographic factors, has recently led to an increase in interest in reserve-creating life products.

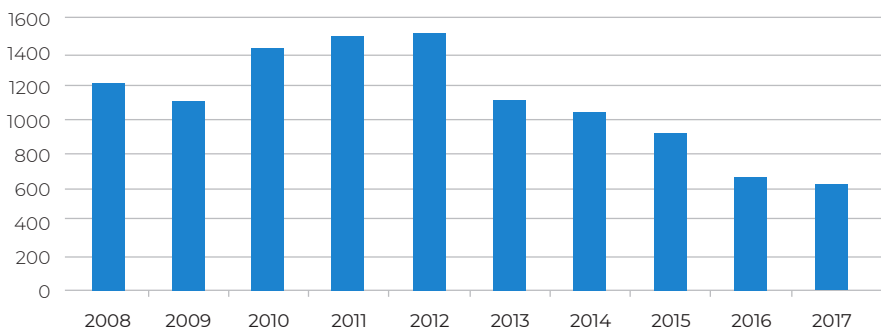
Fig. 3 » Development of life insurance and GDP (annual change) in the Czech Republic, in %



Source: <https://www.kurzy.cz/makroekonomika/hdp/>, http://www.cnb.cz/cnb/stat.arady_pkg.strom_drill?p_strid=BC&p_lang=CS

The historical primary function of this type of product, in the form of risk insurance is, thus, returning to its position in the product range on offer. The secondary function of life insurance as an investment instrument is, by contrast, at a crisis point. The stagnation in life insurance, which has ceased to bring profits from operations on the financial markets to insurance companies as institutional investors in the economy, is closely connected to the negative impact of the system of remunerating insurance agents.

Fig. 4 » Number of new life insurance policies in the Czech Republic (in thousands of pieces)



Source: http://www.cnb.cz/cnb/stat.arady_pkg.strom_drill?p_strid=BC&p_lang=CS

Competition is forcing insurance companies to reduce operating costs. The relatively high commissions paid to insurance agents for securing insurance deals are a very sensitive point in this respect, perhaps even a point of conflict, as can be clearly seen in the current situation on the Czech insurance market. Generally, one of the ways to reduce these initial costs is to simplify the insurance products so that they can be sold using cheaper, modern distribution channels. Life insurance products are, indeed, relatively complex.

Here we should add that in this respect the insurance sector is awaiting an extensive internal metamorphosis connected with its need to adapt to the modern, hectically progressing digital age. The historically conservative segment that is the insurance business has not yet reacted adequately to the current technological boom, and now it will have to catch up. It will be a challenge for the business to simplify its products and make them more transparent for clients and then to reduce the cost of sales by using modern distribution channels.

1.4 THE IMPACT OF REGULATION ON THE LEVEL OF INSURABILITY

Currently there is very strong intervention by state regulation in the highly sensitive issue of the limits of insurability. The current unprecedented increase in regulation is taking place in the name of ensuring greater stability on the financial markets and security for clients. The principle idea is to strive to restrict the return of the lower amplitude of the economic cycle, which has been so dramatically felt in the past decade.

Logically it is the banking sector that is affected by the greatest increase in regulation, as it is regarded as one of the principal culprits responsible for the last crisis. One serious problem in this regard is the fact that the regulatory measures, which were primarily directed at the banking sector, are mechanically, universally and in the interests of “harmonization” applied to other branches of the financial services without regard to their specific characteristics. The insurance business, however, has very distinct specific characteristics; above all, this branch has historically not been susceptible to sudden collapse, unlike the banking sector or investment funds. In this context, the application of regulatory measures based on the same principle to the whole of the financial sector is particularly uncomfortable for the insurance business as it ignores the fact, proven by history, that this branch, although its economy is closely connected with the phenomenon of randomness, is clearly one of the most stable financial sectors, and suffers no great crisis shocks which could damage its reputation.

The insurance business, unlike other segments of the financial markets, displays another significant difference: it does not create any systemic risk that could be directly transferred into the real economy. This branch has, in general, an inherent relatively high resistance to typical crisis triggers, such as a run on the financial institutions followed by potential rapid collapse, as was once again confirmed during the last crisis. From a historical point of view, the insurance business’s low potential for initiating systemic risk in the economy was, once again, displayed. While in the banking sector, the occurrence of systemic risk and its subsequent transfer into the real economy is a matter of key significance, in the insurance business its significance is close to zero. Insurance companies are financed to ensure protection against risk in advance and on a long-term basis; that is, they receive a relatively stable income from insurance premiums and are,

therefore, compared to banks, much less exposed to the risk of an acute lack of liquidity, and are less vulnerable to short-term fluctuations in the market value of their assets. In this regard, the insurance business also functions anti-cyclically thanks to its ability to absorb, to a certain extent, short-term shocks to the financial systems. This fact leads to a lower level of vulnerability that we have already mentioned and to a higher level of resistance of insurance institutions to sudden collapse. There is no crisis in history known to have been caused by the default of an insurance or reinsurance company.

After all, even the regulators themselves recognise that in the insurance business, unlike in banking, it is not possible to identify the immediate, direct trigger of systemic risk, which can be transferred into the financial sector and subsequently into the real economy. Nevertheless, they do see certain indirect potential sources, which could contribute to the creation of systemic risk in the business. Dvořák et al. (2016) consider the main factor to be the danger of the crowd behaviour of insurance companies stemming from their similar balance sheet structure and business models and the same regulation principles.

In the application of the same regulation of all insurance companies on the market, we see a certain paradox among the possible sources of systemic risk; one of the areas where regulations appeared to be a necessity is the investment policy of insurance companies, that is, how they handle the temporarily available resources of life insurance clients during the period between the origin of the insurance policy and the payment of the capital sum, which can amount to decades. Historically, a traditional and, one might even say, tried and tested regulation tool was the so-called quotation of the assets of insurance companies, which guaranteed the conservative handling of resources in the life insurance reserves. As part of the implementation of the Solvency II regulatory project, this traditional tool was abolished and replaced by regulation within the framework of the multi-purpose model, of whose impact on the investment policy of insurance companies there is no practical experience. Nevertheless, in the above quoted article one of the possible dangers is thought to be the strengthening of price bubbles caused by their attempt to gain risky yields in a situation where safe assets do not guarantee yield for the clients. There is clearly no good solution in such a situation, just the choice of a lesser evil. The previous regulation system using asset quota-

tion could, admittedly, lead to a situation where the insurance company had to compensate the clients by paying their guaranteed yield from its own resources, but it could not give rise to systemic risk, such as the accumulation of equity risk mentioned in the article.

If insurance companies do not pose a direct danger of the creation and transfer of either cyclical or structural systemic risk, then, we believe, it is not necessary within the framework of macroprudential regulation to place them on the list of systemically significant financial institutions requiring special handling from the state regulators. Nowadays, of course, the regulators in the over-regulated and bureaucratically conceived European Union have, to be on the safe side, put selected large supranational insurance companies on the list.

In such a constructed environment we should not therefore be surprised that the representatives of insurance companies increasingly frequently and urgently raise the basic questions: In its current form and with its current orientation, is the regulation intelligent, and is it not too detailed? In its answer to the second question, the specialist community inclines to the opinion that current regulation is excessive and incurs significant implementation and transaction costs. The source of more costs is, currently, the inappropriate increase in consumer protection features and the insurance companies' obligation to provide information to their clients. The insurers are afraid that the clients will be overwhelmed with information which they will not be able to process mentally. The key problem of future regulation is, therefore, the answer to the first question: is the current form of regulation applied to the insurance business really effective, or is it rather a set of measures which more than anything else increase the costs of insurance companies and do not appear to be commensurate with their presumed benefits? The answer to this question is of fundamental importance.

In the Solvency II regulatory project, which is currently being implemented, one of the foundation stones is the so-called capital requirement, which is the equivalent of capital adequacy for banks and which systematically sets an acceptable ratio between an insurance company's exposure to the "risk" it has taken on by selling insurance and its disposable resources. This concept is a relic of the "risk-based approach", which was popular at the end of the last century and whose supporters imagined that it was easy to live with risk because it can be easily modelled and

quantified. The principal methodological reservation about this approach is, as Nassim Taleb says, that the occurrence of “unfettered” randomness, which is the antithesis of the “Gaussian order randomness” that functions in a casino, cannot be quantified by a scalar. This means that one of the pillars of the project has an unstable foundation. On the other hand, it demonstrates the legitimacy of an insurance company’s rejection of a request for the insurance of potential disasters. The dilemma, in this case, is very clear: on one hand, insurance is less effective for the clients; the scientific discipline of risk management strongly recommends the unconditional transfer of the financial consequences of disasters. On the other hand, the insurance company, through limits on insurance cover and exceptions from insurance, must strive to maintain the principle of equivalence between income and expenditure and therefore also the balance in its economy, and to achieve a certain level of predictability in its calculation model.

Within the regulatory project, the increased consumer protection requirements for product transparency and the general obligation to provide information constitute a separate chapter. From the point of view of the insurance companies this represents an increase in costs which is disproportionate to its purpose. In addition, the insurance companies are afraid that their clients will be overwhelmed by information which they can hardly digest. The latest novelties are the already approved EU Insurance Distribution Directive (IDD), which has yet to be transposed into Czech law, and the EU directive on the sharing of key information on packaged retail and insurance-based investment products (PRIIPs), which comes into effect in 2017.

These dilemmas confirm how complex, fragile and, in many respects, virtual and irrational today’s globalised, complex economic world is. The complexity displayed by the financial world cannot cope with complicated regulation. It likes simplicity, but in the modern world simplicity is very difficult to achieve. Specialists are even starting to use the term “new regulation normal”, implying stricter requirements on capital and liquidity, the structure of assets and liabilities, the leverage ratio and the information transparency mentioned above.

In this regard we cannot ignore the warning cries of specialists (Bárta, Tureček 2013) studying the decline of past civilisations; the reason for their collapse was the excessive complexity of their systems. Continued, ever more extensive regu-

lation is thus one of the first candidates for spontaneous simplification through collapse. In addition, it gives the impression that it goes against the very principle of mitigating the negative financial consequences of randomness through insurance. Regulation, which even orders the exclusion of disaster insurance from insurance coverage, looks a bit like throwing the baby out with the bathwater. On the other hand, we cannot completely overlook the constant growth in the financial consequences of disaster events connected with the growth in the value of assets on a planet of finite size, and the increasing technological vulnerability of modern society. The dilemma clearly displays the ambivalence and sensitivity of the current position of the commercial insurance business in the economy and in modern society in general, including the sensitive issue of the limits of insurability in the commercial business.

1.5 MORAL HAZARD AND NEGATIVE SELECTION

In the introduction to this contribution we mentioned that a typical characteristic of today's globalised world is a relatively high level of moral hazard and negative selection in economic interactions, and this social characteristic is also found, to a significant extent, in banking and insurance. Moral hazard and negative selection together sparked the last financial crisis, and the bankers are still bearing the consequences of their speculative behaviour. This is evidenced not only by the excesses of regulation, but also, for example, by the textbook case, still widely covered in the media, of Deutsche Bank.

In this article we have already noted the difference between banking and the insurance business in this respect: bankers, through their speculative, or indeed hazardous behaviour, have historically contributed (and very significantly in the last crisis) to the creation of imbalance in the economy, to the extent that a return to a balanced state was possible only via the lower cyclical amplitude. In other words, the systemic risk generated in the banking sector was directly transferred to the real economy. In the case of the insurance business, this course of events did not occur during the last crisis period. Indeed, as throughout the whole history of crisis cycles, the insurance business, in this respect, displays a higher level of resistance to crisis triggers. No significant crisis has ever been started by the default of an insurance company.

Because of the operational risk of antisocial behaviour on the part of the clients, or even the employees, the insurance business is, of course, inherently more exposed to moral hazard and negative selection than other branches of finance. The entire insurance business is exposed to the antisocial behaviour of the parties in an insurance relationship irrespective of the type of insurance product involved. As we have already mentioned, the insurance market is generally regarded as a market with significant information asymmetry between its participants. Nevertheless, it is interesting that some theoreticians include the area of moral hazard and negative selection in the problematics of information asymmetry. A leading representative of that line of thought is the previously quoted Professor J. Stiglitz, who is a firm supporter of the opinion that the potential client of an insurance company is generally better informed about his risk level than the insurance company is. According to Stiglitz, the client clearly has the information advantage. Stiglitz, indeed, goes further and includes the client's potential to commit insurance fraud in his argument about the client's information advantage. In this respect, we should, of course, first ask the question whether moral hazard, when better informed subjects abuse their position, and negative selection, when, because of imperfect information, a decision-making party chooses an option which is worse for it, and against which, according to Professor Samuelson, insurance companies protect themselves with specially constructed insurance products and exceptions, can still be considered information asymmetry in the sense of a client's individual information about his own risk level. If a client makes a firm decision to commit insurance fraud, then it will certainly happen; it is not a phenomenon of random nature, and cannot therefore be included in an insurance contract. It cannot be judged either by the usual criteria of an insurance relationship. In such a context, the primary general question whether information asymmetry represents the abuse or use of information within the framework of a voluntary contractual market transaction becomes meaningless. The solution on the part of the insurance company is, therefore, appropriate: the guilty party, apart from any possible penal consequences, does not receive any compensation and, in addition, is put on the insurance companies' black list, which makes it uninsurable in future.

B. Berliner (1982) gives a concise view of this topic: moral hazard and negative

choice are unambiguously incompatible with the institution of insurance.

The area of moral hazard and adverse selection is currently typified by the above mentioned problem of the constantly growing income gap, to which neither politicians of the left nor the right have an effective solution. The “critical framework of capitalist thinking” of Joseph Schumpeter and ethical principles are always in conflict. In the last decade, the dilemma has, in a way, escalated; one of the causes of the crisis has been identified as the greed of the financiers, their circumvention of regulations and their speculative, casino behaviour on the financial markets.

In reaction to this phenomenon there is a growing revival in the ideas of mutuality in the financial sector, leading to an expansion in scope for peer to peer institutions. In combination with the use of modern digital technology, the principle of simplifying services and reducing their costs is used not only in banking and insurance, but also in taxi services and the provision of accommodation, where it is attracting ever more supporters and users.

An example of a successful insurance project of that type is the New York insurance company Lemonade, which was founded in October last year by an association of investors and behind whose creation and operation is the world-famous behavioural economist Dan Ariely. The ambition of the company is to replace bureaucracy and conflicts in the business with transparency and modern technologies and to offer a cheaper solution, especially for people in complicated financial situations. According to the representatives of the company, one of the most antiquated industries becomes a pleasant experience for the consumer; the company uses special interactive computer programmes, which conclude a contract with the client and, if necessary, pay out damages. The mutual character of the system is underlined by the fact that the resources not paid out in damages are donated to a charity, for example UNICEF or the Red Cross. This payoff programme, which is based on a study by Dan Ariely, gained the insurance company B-Corp certification.

It is clear that peer to peer insurance companies offer products against the consequences of randomness occurring homogeneously, which can be relatively successfully quantified by a model. Solving the problem of the limits of insurability in the area of disaster cases caused by “unfettered” randomness is not their field. We see their positive side both at an ethical level (the declared behaviour of

the Lemonade insurance company is the antithesis of greed-driven moral hazard and adverse selection), and at a technological level, where most of the insurance business is still struggling somewhat with the complexity and, therefore, reduced transparency of the products offered to the clients.

2 METHODS

The aim of the paper is to analyze the current questions on the insurance markets, to show the changes of risk insurability in the last decade and the future of risk insurability. The authors consider by the analyzing the given topic the following question: What factors led to changes in the insurance markets and how will these factors affect the future development of the insurance markets?

The methods used in the paper include description, deduction and analytic comparisons.

3 PROBLEM SOLVING

The global world and the financial markets are changing. These changes have a negative impact on the risk insurability in the insurance business. There are a lot of factors influencing this fact: constant scientific and technical progress, which brings a high standard of living in the developed economies but which also goes hand in hand with greater technological vulnerability, and increasing, but very unequally distributed wealth all lead to social unrest and a certain level of frustration in a significant section of the population, including questioning of the legitimacy of the democratic model. These factors, together with a high level of moral hazard and negative selection in economic interactions, the digital boom and an information overload with which human beings are unable to cope, create a completely new political and economic environment. In this new environment it is commonplace for existing economic paradigms to collapse, especially those used by normative or predictive scientific disciplines. The speed of change in this rapidly changing, complex, globalised world outstrips by far the creation of new theoretical and methodological paradigms by the social sciences. The solution is to search and find new theoretical bases for the explanation of the development.

4 DISCUSSION

In connection with recent developments in the insurance markets, we are posing the following questions for discussion:

- What effect the further development in the field of natural disasters will have on insurance markets,
- Development on financial markets and their impact on insurance markets,
- The impact of other regulatory changes,
- The theoretical explanation of major global changes on insurance markets.

CONCLUSION

The commercial insurance business has a fundamental problem integrating the costs of disaster damages of enormous financial proportions, which cannot be quantified by scientific approaches, into the economy of its branch of finance. For a non-life insurance company, as an institution with a negative relationship to the phenomenon of volatility, a disaster means a potential loss whose potential size cannot be deduced from historical data, and it is therefore not possible to set an exact equivalent price for insurance covering the risk of disaster. Financial cover for the consequences of catastrophic events clearly comes under the problem of setting the limits of insurability. The commercial insurance business, including reinsurance, faces, in this regard, a barrier, as it must respect the principle of equivalence when setting insurance premiums. The solution to this problem is the multi-source financing of disasters, engaging public finances and entire financial markets in the elimination of the financial consequences of “unfettered” randomness.

Life insurance, because of the current low effectiveness of the financial markets, is being forced to abandon the co-financing of the post-active period of life and to return increasingly to its original primary role – resolving the financial impact of risk events in a person’s life.

The position and effectiveness of the commercial insurance branch, including the problem of the limits of insurability, is affected significantly by state regulation. Although the insurance business is one of the most stable financial sectors and has not historically been the cause of systemic risk that can be transferred

into the real economy, the same unified approach that is applied by the regulator to all segments of the financial market is applied to it rigidly, without any regard for its specific characteristics. The Solvency II project, which is currently being implemented, is in conflict with the generally applicable axiom on the unpredictability of the external world and the impossibility of making the future the subject of scientific study, when it does not yet exist. This qualitative conflict cannot be solved by mathematics, which calls the construction of the capital requirement into question. Moreover, the business is currently afflicted by over-regulation, carried out in the name of consumer protection, in particular the obligation for information transparency, which is disproportionate to the benefits it brings.

Within the framework of the limits of insurability, the insurance business must also solve the growing financial consequences of moral hazard and negative selection. In this regard, the categorisation of insurance fraud as part of the problem of information asymmetry on the insurance market must be rejected. Fraudulent dealings are unambiguously incompatible with the institution of insurance. In this we see a positive potential for the improvement of work with business risks and within the Solvency II project.

The necessity to reduce costs and use modern digital technology while, at the same time, improving the ethical image of the business is revitalising the idea of mutual peer-to-peer insurance. The effectiveness of the products of those insurance companies against disaster risk is, however, problematic. This development does not affect the necessity for a permanent process of anticipation of external and internal impacts on the limits of insurability by the commercial insurance business.

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