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Economic and Monetary Affairs

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Alternatives to Investor Compensation Schemes and their Impact

STUDY

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Abstract

This study investigates whether private insurance contracts can be a substitute to investment compensation schemes (ICS). Starting by describing the scope of events (fraud, administrative malpractice, operational error and bad advice) which are covered by ICS, the study continues to analyse whether existing insurance products offer cover for this. Then the authors analyse the economic advantages and disadvantages, costs and legal challenges of partially and/or fully substituting ICS with private insurance. Finally, they investigate the consequences of taking out insurance for systemic risk and comment whether transparency towards investors is beneficial.

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LIST OF ABBREVIATIONS

D&O	Directors and officers (insurance)
AIG	American International Group
ALDE	Alliance of Liberals and Democrats for Europe
CAD	Canadian dollar
CDS	Credit Default Swap
CEP	Centrum für Europäische Politik
CIPF	Canada Investor Protection Fund
DGS	Desposit Guarantee Scheme
DGSD	Deposit Guarantee Schemes Directive 94/19/EC
ECON	Committee on Monetary and Economic Affairs of the European Parliament
EdW	(German) Entschädigungseinrichtung der Wertpapierhandelsunternehmen
EdWBeitrV	EdW-Beitragsverordnung (German Regulation on Contributions to the EdW)
EFDI	European Forum of Deposit Insurers
EIOPA	European Insurance and Occupational Pensions Authority
EP	European Parliament
ESMA	European Securities and Markets Authority
ESRB	European Systemic Risk Board
EU	European Union
EUR	Euro
FSA	(UK) Financial Services Authority
FSCS	(UK) Financial Services Compensation Scheme
HDIGF	Hellenic Deposit and Investment Guarantee Fund
IADI	International Association of Deposit Insurers
ICCL	(Irish) Investor Compensation Company Limited
ICS	Investor Compensation Scheme
ICSD	Investor Compensation Schemes Directive 97/9/EC
MiFID	Markets in Financial Instruments Directive 2004/39/EC
UCITS	Undertaking for Collective Investment in Transferable Securities
UK	United Kingdom
WAG	Wertpapieraufsichtsgesetz (Austria)

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EXECUTIVE SUMMARY

Since 1997, the Investor-Compensation Schemes Directive 97/9/EC ('ICSD')[1] ensures that at least one Investor Compensation Scheme ('ICS') exists in all Member States which protect clients of investment firms and banks engaging in investment services up to at least EUR 20,000 against the risk that their service provider is not able to return clients' securities or repay money in accordance with the legal and contractual conditions applicable; e.g. due to fraud, negligence or mismanagement. However, the ICSD does not make such an event or the proof of it a requirement for compensation for the investor. The Directive does not prevent ICS and their members to take out insurance to cover in full or partially their obligations.

In 2010, the Commission has proposed amendments to the directive (see COM (2010)371)[2] which would lead inter alia to a higher coverage of EUR 50,000 and inclusion of depositories of investment firms or investment funds/units in Undertakings for Collective Investment in Transferable Securities (UCITS). The European Parliament (EP) adopted a report on the proposal on 5 July 2011[3] and demanded changes to the proposal, namely:

(i) a raised coverage level of EUR 100,000 (see amendment 24),

(ii) compensation (only) in cases of fraud, administrative malpractice, and operational error as well as bad advice regarding conduct of business obligations when providing investment services to clients (see amendment 20[4];'the four events');

(iii) deletion of proposed compensation (to UCITS investors) for failure of depositary or sub-custodian of a UCITS (see amendment 21, 22), and

(iv) transparency of ICS contributions and/or insurance premiums to (potential) clients (see amendment 62).

One core question within the discussion is the funding of ICS. The EP was particularly interested in alternative coverage and 'funding' possibilities, in particular insurance solutions.

Consequently, this study deals with the question whether private insurance undertakings could fully or partially take over the risks from existing ICS. With full replacement, all damage caused to investors by these four events (fraud, administrative malpractice, operational error and bad advice) would be taken over. With partial replacement, the insurance undertaking would only pay for damages up to a specific level (cap) or only related to a subset of these four risk events.

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1 Directive 97/9/EC of the European Parliament and of the Council of 3 March 1997 on investor compensation schemes, OJ L 84 of 26.3.97, p. 22; http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:1997:084:0022:0031:EN:PDF.

2 European Commission (2010a), Proposal for a Directive of the European Parliament and of the Council amending Directive 97/9/EC of the European Parliament and of the Council on investor compensation schemes, Brussels, 12.7.2010, COM(2010) 371 final, http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0371:FIN:EN:PDF.

3 European Parliament (2011): European Parliament legislative resolution of 5 July 2011 on the proposal for a directive of the European Parliament and of the Council amending Directive 97/9/EC of the European Parliament and of the Council on investor-compensation schemes, P7_TA(2011)0313. http://www.europarl.europa.eu/sides/getDoc.do?type=TA&reference=P7-TA-2011-0313&language=EN.

4 Consequently, this amendment might lead to a possible limitation of scope, i.e. restricted to the mentioned cases - while the previous wording just set the requirement that the investment firm is not able to duly return assets or monies.

The main findings of the study are as follows:

- The introduction of the four events by the EP into the directive adds an additional layer of complexity to the question whether ICS (or insurance undertakings) should compensate (or offer coverage) in a specific case. More clarity is necessary on the exact meaning of those events and on the allocation of the burden of proof. Without such clarity, private insurance supply is unlikely.
- Partial replacement of the ICS does not seem to be a viable option because it might impair the incentives of insurance undertakings, ICSs and investment firms. Moreover, problems in the damage compensation process are likely to be expected. This holds true in part also, if an ICS buys such partial insurance (e.g. AeW in Austria).
- Full (and mandatory) replacement of the ICS may improve risk assessment and risk controlling and the incentives of investment firms, but is likely to increase the costs of investor compensation, especially because insurance undertakings need data for actuarial risk assessments.

In order to gather information for this study, detailed questionnaires have been sent out to various addressees (see Annex 2). Responses indicate a general unwillingness by insurance undertakings to enter this market. They are particularly unlikely to offer full insurance with unlimited coverage per investment firm. Allowing for liability caps makes a supply of such insurances more likely, but only slightly so. The main reasons mentioned are insufficient available data for proper risk assessment, the lack of re-insurance and the small size of the national markets. Scarce data suggests that the price of a full insurance contract with a liability cap of EUR 5 million will be significantly more costly than the current ICS contributions. However, current ICS levies might be too low considering the true risk of investment firms.

Hence, since full insurance might only by realisable with a liability cap per investment firm, the (continued) existence of an ICS might still be necessary to cover for the failure of large investment firms - provided the ICS is able to do so. There might be a way out of the latter issue if the ICS - and not the single investment firms - buys insurance coverage for all 'basic model' damages incurred by the investment firms being members of the ICS. From an economic perspective, this approach could make sense if there is an 'excess of loss' insurance which only covers damages exceeding a specific liability floor (e.g. EUR 15 million in Ireland) up to another specific liability cap (e.g. EUR 50 million in Ireland). In this set-up, there is an insurance effect while the incentives of ICS and insurer are not distorted too much.

Risk diversification will be improved if several insurers together provide insurance for the ICS (as actually is the case in Ireland) or for large investment firms. Such insurance pools tend to reduce competition between insurers, though. Indeed, in Ireland, the local ICS (ICCL) concluded an insurance contract with Lloyd's of London. Lloyd's is not an insurance undertaking but an insurance market where the members of Lloyd's jointly insure risks.

The responses to the questionnaires indicate that insurances taken out by the ICS only exist in Ireland and Austria. In other EU countries, it never existed or does not exist anymore (Greece, Lithuania). This is so even though several EU Member States leave their ICS the option to purchase insurance. Problems mentioned are the lack of information for actuarial risk assessment and/or the high costs of insurance. So far, there is insufficient data to conclude whether taking out 'excess of loss' insurance pays off for the ICS.

From a theoretical point of view, systemic risk is considerably lower with investment firms and insurance undertakings than with (commercial) banks. Still, systemic risk might be an issue with highly leveraged and interconnected insurance undertakings engaging a lot in

non-core activities (such as derivatives trading). The existence and use of insurance pools and re-insurance will influence the size of systemic risk. Supervisory bodies do not expect that systemic risk increases significantly with full or partial replacement of ICS by private insurance as long as there is limited coverage or adequate re-insurance. This assessment also holds when the ICS takes out insurance. But systemic risk may increase in case of a large damage of an insured investment firm.

Investment firms should not be required to disclose ICS charges or insurance contract terms because the benefits of transparency are very limited. Charges will not only depend on the investment firm's riskiness, but also on its size and the features of the insurance contracts. Thus, charges are comparable only to a very limited extent.

1. INTRODUCTION AND STATUS QUO

ICS are in place for some time now and are part of the overall framework of regulation of the financial sector in the EU. Thus, their rules have to be assessed in context with other relevant provisions, such as for instance the Deposit Guarantee Scheme Directive (DGSD), the Markets in Financial Instruments Directive (MiFID) or the Undertakings for Collective Investment in Transferable Securities (UCITS) Directive taking into account the current discussions and changes in these parts of the framework.

1.1. Definitions

The study uses the following definitions:

- **Basic Model**: The Basic Model on which this study is based and which is explained in Section 2.1. mirrors the EP's voted amendments regarding the proposal to amend the present ICSD regarding scope (only non-UCITS clients of investment firms), coverage (EUR 100,000) and preconditions for investor compensation;[5]
- **Deposit Guarantee Scheme** (DGS): According to the DGSD, deposit guarantee schemes reimburse bank account holders up to EUR 100,000 of deposits in case the bank is not able to repay due claims;[6]
- **Insurance undertaking**: An authorised direct life or non-life insurance undertaking according to the Solvency II Directive;[7]
- **Investment firm**: According to the ICSD (read in conjunction with the MiFID), an investment firm is any entity authorised by a competent authority to provide investment services to third parties or which performs investment activities, e.g. execution of orders on behalf of clients and portfolio management.[8] Banks/credit institutions may also provide investment services and are in this case regarded as investment firms for the purposes of the ICSD;
- **Investor**: According to the ICSD,[9] an investor is any person who entrusts money or instruments, e.g. transferable securities, to an investment firm in connection with investment business;
- **Investor compensation scheme**: According to the ICSD,[10] an investor compensation scheme is an entity that provides coverage for investors when an investment firm is unable to repay money or to return assets belonging to them;
- **Undertakings for collective investment in transferable securities** (UCITS): According to the UCITS Directive,[11] a UCITS is an authorised undertaking the sole object of which is the collective investment of capital raised from the public in transferable securities and/or in other liquid financial assets and the units of which are, at the request of holders, re-purchased or redeemed at any time. Such UCITS are harmonised investment funds which can be marketed within the EU via a passporting procedure. This is not the case for non-harmonised nationally licensed investment funds.

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5 European Parliament (2011), Resolution P7_TA(2011)0313; http://www.europarl.europa.eu/sides/getDoc.do?type=TA&reference=P7-TA-2011-0313&language=EN.

6 Directive 94/19/EC (Deposit Guarantee Schemes Directive 'DGSD'), as amended by Directive 2009/14/EC which prescribes a cover of at least EUR 100,000.

7 Article 13 (1) Directive 2009/138/EC (Solvency II).

8 Article 1 (1) of Directive 97/9/EC (ICSD); Article 4 (1), (2), and Annex 1 Section A of Directive 2004/39/EC (MiFID).

9 Article 1 (4) of Directive 97/9/EC (ICSD).

10 Article 2 (2) Directive 97/9/EC (ICSD).

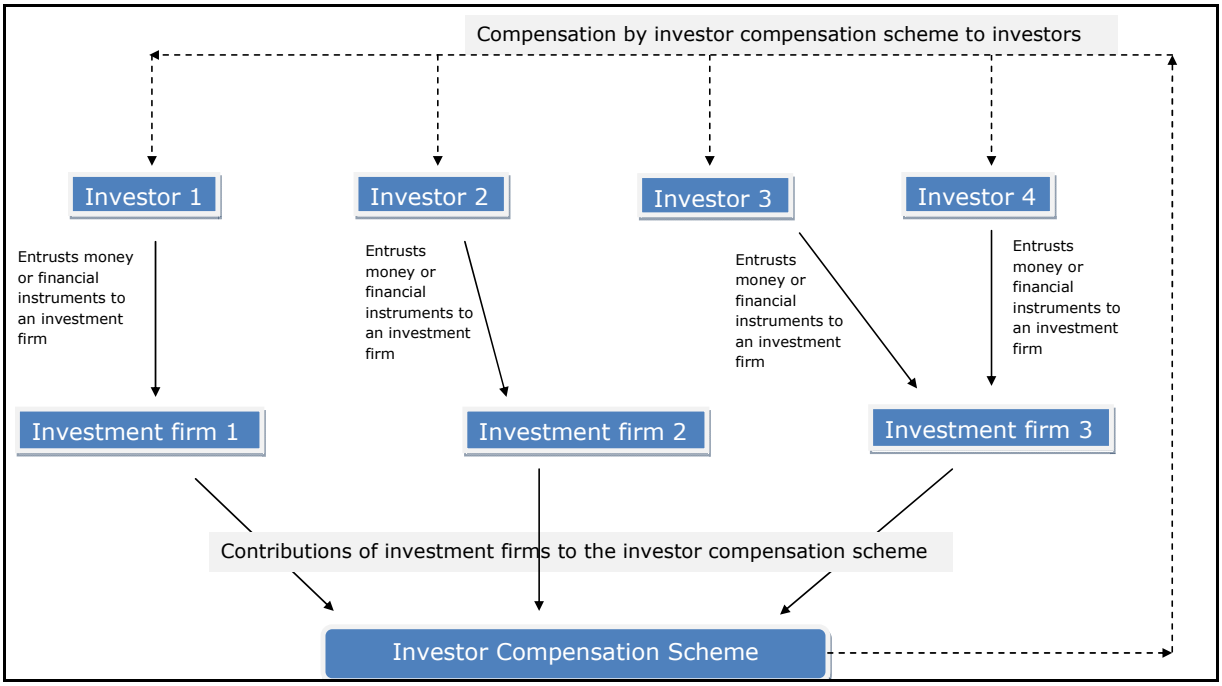
11 Article 1 (2) Directive 2009/65/EC (UCITS).

1.2. Existing investor compensation schemes (ICS) in the EU

In the European Union, ICS cover for an investment firm's inability to repay money or to return assets to investors (Investor Compensation Scheme Directive 97/9/EC; 'ICSD'). All 27 European Member States must have at least one ICS. Most ICS are financed by regular financial contributions of investment firms.

The following figure shows the common current functioning of ICS.

Figure 1: Common current set-up of investor compensation schemes



Source: CEP/Bigus.

1.3. Status of legislative proceedings

The current ICSD dates back to March 1997. Its initial aim was to establish an ICS in each Member State to protect at least small investors in case an investment firm was unable to meet its obligations.[12] The EP and the Council considered the protection of investors and the maintenance of confidence in the financial system being '*an important aspect of the completion and proper functioning of the internal market*'.[13]

In the ten years that followed, the Commission received numerous complaints '*principally related to the coverage and funding of schemes and delays in obtaining compensation*'.[14] Hence, and in order to restore investors' confidence given the financial crisis, the Commission decided to review the ICSD. The proposal COM(2010) 371 for a Directive amending Directive 97/9/EC was adopted on 12 July 2010.[15]

The review of the ICSD as well as the review of the Deposit Guarantee Schemes Directive 94/19/EC (DGSD) as well as the White Paper on Insurance Guarantee Schemes[16] all aim at strengthening trust in financial stability. This shall be achieved by improved protection for

[12] Directive 97/9/EC (ICSD), Recital 4.
[13] Directive 97/9/EC (ICSD), Recital 4.
[14] European Commission (2010a), p.2.
[15] European Commission (2010a).
[16] European Commission (2010c), White Paper on Insurance Guarantee Schemes, COM(2010) 370, Brussels, 12 July 2010.

retail clients of financial service providers and is a precondition for the smooth functioning of the financial system.

The Committee on Economic and Monetary Affairs (ECON) of the EP published its Report on the proposal on 19 April 2011 (Rapporteur: Olle Schmidt, ALDE, Sweden).[17] The EP adopted its legislative resolution on 5 July 2011.[18] Amongst other things, it was in favour of an EU-wide uniform protection level of EUR 100,000.

However, the Council has not yet reached a general approach. In particular, there are different views between Member States on the coverage level. Some Member States see no need to increase the current level of EUR 20,000 minimum coverage per claimant while others favour a harmonised maximum level of EUR 50,000. Most Member States reject to extend the scope of the Directive to UCITS as customers of investment firms.[19]

[17] A7-0167/2011.

[18] European Parliament (2011), Resolution P7_TA(2011)0313.

[19] Council of the European Union; Progress report of the Presidency, Council document No. 12032/11, Brussels 24 June 2011.

2. SCOPE OF THE STUDY

KEY FINDINGS

- The scope of this study is a 'Basic Model' which mirrors the European Parliament's resolution on amending the Investor Compensation Schemes Directive (ICSD).
- Due to its wording and by the lack of rules on the allocation of the burden of proof, the European Parliament's resolution might reduce the scope of coverage by ICS to investors as compared to the current ICSD.

This study analyses

- whether the coverage offered to clients of investment firms by ICS can be replaced by coverage provided by private insurance contracts and
- the impact which such a replacement would have.

2.1. The Basic Model: consequences and issues

The scope of the study is limited to a so-called 'Basic Model', defined as follows:

- ICS covers individual damage up to EUR 100,000 for each investor per investment firm.
- ICS provides coverage if an investment firm is not able to repay money or to return assets and **this being a consequence** of one of the following events:
  - fraud,
  - administrative malpractice,
  - operational error, or
  - bad advice regarding conduct of business obligations when providing investment services to clients.
- ICS shall compensate investors as soon as possible and at the latest within three months of the establishment of the eligibility and the amount of the claim.

This Basic Model mirrors the European Parliament's resolution in its first reading of 5 July 2011 on amending the Investor Compensation Scheme Directive 97/9/EC.[20] The following table shows how the Basic Model relates to the Commission's proposal and to the current situation (Directive 97/9/EC).

[20] European Parliament (2011), Resolution P7_TA(2011)0313.

Table 1: Basic model vs. *status quo* and Commission proposal

Features	Directive 97/9/EC	Commission Proposal COM(2010)371	EP resolution 'Basic Model'
Level of compensation	EUR 20,000 (minimum)	EUR 50,000 (harmonised)	EUR 100,000 (harmonised)
Preconditions for coverage	Investment firm is not able to repay money due or to return assets to an investor (confirmed by a competent authority or a ruling of a judicial authority).	Investment firm is not able to repay money due or to return assets to an investor (confirmed by a competent authority or a ruling of a judicial authority).	Investment firm is not able to repay money due or to return assets to an investor **AND** this is the result of - fraud, - administrative malpractice, - operational error or - bad advice.

Source: CEP/Bigus.

2.1.1. Consequences of the EP Basic Model and possible disadvantages for investors

While the EP resolution extends the level of compensation for investors to EUR 100,000; at the same time, it restricts the variety of cases in which ICS must offer coverage to investors. The ICSD as well as the Commission's proposal do not link coverage to any other preconditions than to the mere (confirmed) inability of an investment firm to repay money or return assets. The question *what* exactly is the cause of this inability, is irrelevant.

According to the EP resolution, ICS must offer coverage only where this inability is '*the result of fraud, administrative malpractice, operational error or bad advice*'.[21] The wording of the EP resolution suggests this to be an exhaustive enumeration. In that case, the occurrence of one of these four events is a necessary – but not sufficient – condition for receiving coverage by the investor compensation scheme.

Arguably, the introduction of these four events in the text of the Article could result in investors not being compensated for cases (such as force majeure), which today are covered by ICS.

2.1.2. Burden of proof in regard to fraud, administrative malpractice, operational error or bad advice

Under the current ICSD, an investor compensation scheme must compensate investors, if

- *'competent authorities have determined (...) an instrument firm (...) to be unable to meet (...) investors' claims or*
- *a judicial authority has made a ruling (...) which has the effect of suspending investors' ability to make claims against' the investment firm.'*[22]

Consequently, the provisions of the ICSD do not need to contain any further provisions on the allocation of the burden of proof.

The EP's resolution – and hence also the Basic Model – introduces on the one hand a new element of complexity, as investor compensation schemes must compensate investors only upon (additional) fulfilment of one (or more) of the four events (fraud, administrative malpractice, operational error or bad advice). On the other hand, the EP's resolution

[21] European Parliament (2011), Resolution P7_TA(2011)0313, Amendment 20.

[22] Article 2 (2) ICSD.

remains silent on the allocation of the burden of proof regarding these preconditions for coverage. It has yet to be specified who will have to prove that one (or more) of these 'events' did - or did not - occur. This could be the client, the investment firm, the ICS, or the competent/judicial authority).

Leaving it up to the investor to offer proof of fraud, administrative malpractice, operation error or bad advice seems rather problematic. In a large majority of cases, it might prove impossible for investors to gather sufficient and convincing information enabling them to do so. Thus, this text might well have been inserted in the Directive's text with the best intentions, but might - if adopted for the final text of the Directive - turn out to work against investors' interests.

Box 1: The difficulties of covering bad advice

The difficulties of covering bad advice

The EP's resolution introduces bad advice as one of the four events which may trigger compensation by ICS. Typically, cases of bad advice differ from cases of fraud, administrative malpractice or operational error in the following way:

Following bad advice, assets will generally remain available in the securities account, though their value might have decreased to a considerable degree. This might be the consequence of those assets belonging to a high risk asset category - which the investor claims to have been unaware of and unwilling to invest in.

However, according to the wording of the EP's resolution, ICS do not compensate such bad advice *per se*. (The same holds true for fraud, administrative malpractice and operational error). Compensation is provided for only where investments firms are unable to repay money or to return assets as a consequence of bad advice.

Hence, typical cases of bad advice may not be covered by the approach contained presently in the EP's resolution.

2.1.3. Exclusion of UCITS

UCITS are harmonised investment funds[23] which enable e.g. small investors to invest in a diversified way by buying the units of a UCITS. The UCITS invests the money by buying certain securities and other eligible instruments. UCITS are obliged to keep these instruments with a designated 'depositary' [24] which might employ sub-custodians. Depositaries and sub-custodians are not necessarily investment firms according to the MiFID Directive (see explanation in the next paragraph) and thus not covered by the ICSD. Thus, the ICSD does cover units of (harmonised and non-harmonised) collective investment undertakings which are part of an investor's account with a failing investment firm covered by the ICSD. But it does not cover losses (in the value) of UCITS units suffered by investors in UCITS as a consequence of a failure by a UCITS' depositary or sub-custodian.

[23] UCITS stands for '**u**ndertakings for **c**ollective **i**nvestment in **t**ransferable **s**ecurities' and designates harmonised investment funds. They are covered by Directive 2009/65/EC on the coordination of laws, regulations and administrative provisions relating to undertakings for collective investment in transferable securities (UCITS Directive).

[24] See Article 22 of the UCITS Directive 2009/65/EC.

The reason is that according to Article 2 (2) of the ICSD, only losses '*in connection with*' investment business are covered. According to Article 1 (2) of the ICSD, investment business means any investment service according to Annex 1 Section A of the MiFID and the ancillary service of safekeeping and administration of financial instrument for the account of clients according to Annex 1 Section B (1) of the MiFID.[25] However, according to Article 2 (1) (h) of the MiFID, UCITS and its depositaries are exempted from the MiFID.

The Commission's proposal to include a UCITS' depositary default into the scope of ICS has its grounds in the following specific feature: UCITS' assets must be kept with a depositary. In the case of failure of such a UCITS' depositary, assets in which a UCITS has invested may be lost. However, the UCITS' units or UCITS' shares of an investor will still exist – even though they might lose in value. Thus, rather untypical to the classical functioning of ICS, the Commission proposed to specifically compensate losses in value of such UCITS' units/shares.

In contrast to the European Commission, both the EP and the Council question the extension of the scope of the Directive to include the failure of a UCITS depositary.[26] Instead, the EP wants the extension to be discussed in the review of the UCITS Directive that deals with the depositaries liability regime in detail.

2.2. Private insurance contracts within the Basic Model

2.2.1. Private insurance contract arrangements

This study deals with private insurance contracts within the Basic Model in the following arrangements:

- mandatory full insurance,
- mandatory partial insurance,
- Voluntary and partial insurance.

We start by considering private insurance contracts taken out by **investment firms**. Private insurance coverage could also be **taken out by ICS** for its members; this scenario is part of this study, too, see chapters 4.2.5, 4.3.2 and 5.2.4.

Figure 2 in Annex I gives an overview of the main scenarios of private insurance contracts taken out by investment firms. These contracts might replace **fully** or **partially** the contributions of investment firms to the ICS.

- Mandatory full replacement is only possible when the investment firm has taken out one (or more) insurance policy/policies covering all four 'events' of the Basic Model without application of any liability cap. Under full replacement, the investment firms no longer need to be member of the ICS (which could, consequently, cease to exist).[27]

[25] According to Annex 1 Section A (9) of the Proposal COM(2011) 656 for a Directive of the European Parliament and of the Council on markets in financial instruments repealing the MiFID (Recast), the safekeeping and administration of financial instruments is an investment service (main service) and no longer an ancillary service.

[26] European Parliament (2011); Resolution P7_TA(2011)0313; Council of the European Union, Progress Report by the Presidency.

[27] Assuming that these private insurances would not entail a liability cap. If they would, ICS might still be necessary, see chapter 4.2.4.

- Mandatory partial replacement means that only some of the four 'events' are covered by the insurance (e.g. fraud). In the partial replacement scenario, the investment firm remains an ICS member, but only for those risks not covered by the private insurance(s).[28]

Insurances can be **voluntary** or **mandatory**, the latter meaning each investment firm has to prove the (initial and continued) existence of an appropriate private insurance coverage in order to be authorised to offer its services. Depending on the willingness of insurance undertakings to take on compensation risk, private insurance contracts might cover all compensation requests or might be capped at a certain amount. In this case of a cap, ICS will have to continue and provide coverage to those members for the remaining risk if full coverage shall be maintained.

2.2.2. Analysis of private insurance contracts

For each of the scenarios described above, this study describes the

- Economic issues
- Financial issues
- Legal issues
- Systemic risks and
- Transparency issues

involved.

The empirical input for this analysis was gathered by sending specific questionnaires to

- Insurance associations in 27 Member States as well as on the European level,
- Insurance undertakings in all 27 Member States,
- All ICS in all 27 Member States,
- EIOPA as well as all national insurance supervisory authorities,
- Selected investment firms and investment firms' associations, both on the level of all 27 Member States and on the European level.

The questionnaires are displayed in Annex 2.

[28] Probably causing the investment firm's contribution to the ICS to decrease.

3. EXISTING INSURANCE COVERAGE FOR (PARTS OF) INVESTOR COMPENSATION

KEY FINDINGS

- Existing crime insurances and pecuniary loss liability insurances show some similarities with the preconditions set out by the EP for ICS to compensate investors.
- In at least nine Member States, national regulations allow for ICS taking out insurances or set out explicitly preconditions for ICS to do so.
- One ICS (ICCL in Ireland) has taken out an 'excess of loss' insurance. An insurance pooling solution has been used for this. An Austrian ICS (AeW) has taken out partial private insurance covering ICS-damages caused by fraud at investment firms.
- At least two ICS (Greece and Lithuania) have taken out insurance in the past, but meanwhile ceased doing so.
- At the level of investment firms, in one Member State (Germany) a partial replacement of ICS-membership by private insurance contracts is possible.

3.1. Relevant insurance products and insurance settings

3.1.1. Description of relevant insurance products

Crime insurance

'Crime insurance', often also known as fidelity insurance or bankers' blanket bond is a widespread type of insurance concluded by businesses covering against the risk of fraud and other tortuous acts committed by employees of a company ('confidants') or third parties for whom the company is liable. As the term 'crime insurance' implies, insurance coverage usually comprises intentional illicit conduct undertaken by confidants for which the company is liable to pay compensation. In case jobholders or third parties perpetrate tortuous acts, the insurance pays the incurred damage to the company. Such loss can be a loss in inventory, money or securities. Typically, claims are caused by employees' or third parties' dishonesty, robbery, embezzlement, forgery, theft or computer-related crime. In case the company seeks for compensation for damages caused to the company or its clients (to be paid by the insurance undertaking), it normally has to prove towards the insurance undertaking the cause and volume of the confidant's obligation to pay compensation towards its employer.

Box 2: Risk calculation by insurance undertakings for crime insurance

How do insurance undertakings calculate the risk of crime insurance?

Although it is up to each insurance undertaking itself to develop its own risk assessment tools, there are at least four variables which seem to be common in assessing the risk profile of a potential crime insurance taker.

First, the number of confidants (i.e. those employees whose illicit behaviour may cause insurance coverage) plays a key role. The larger that number, the larger the risk and hence the insurance premium will be.

Second, the amount insured will directly influence risk and consequently premiums for crime insurance products.

Third, rebates or surcharges on the premium are applied, depending on the 'loss history' of the insurance taker. Insurance undertakings will analyse whether or not cases of illicit behaviour have occurred in the past with the insurance taker. Past 'frequency losses', which are rather small and occur on a regular and foreseeable basis will lead to a moderate additional charge in the insurance premium. In case of large, unexpected losses in the past, higher additional charges will be applied.

Fourth, depending on the insurance taker's industry, risk and hence premiums will be adjusted up- or downwards.

Pecuniary loss liability insurance / Directors and Officers (D&O) insurance

'Pecuniary loss liability insurance' is taken out by companies and provides coverage for the infringement of contractual duties undertaken by employees of the company with the consequence of pecuniary detriment. The insurance is a kind of professional indemnity insurance or 'errors and omissions' insurance that insures money damage caused by negligence. Usually, personal injury and damage to property is not covered. Pecuniary loss liability insurances thus protect policyholders from the consequences of, e.g. operational error, administrative malpractice or bad advice. Typical policy holders are medical personnel, freelancers, lawyers and auditors.

A special type of pecuniary loss liability insurance is the so called D&O (Directors and Officers) insurance. Unlike the aforesaid, D&O insurance solely protects the management body and other executive staff against claims for indemnity due to infringement of contractual duties. In order to avoid hazardous behaviour by this particular group of persons, the insurance does not protect the policy holder against intentional misconduct.

3.1.2. Description of relevant insurance settings

'Excess of loss' Insurance

'Excess of loss' insurances cover losses that exceed a certain threshold ('liability floor') up to another specified threshold ('liability cap'). Thus, in case the incurred damage is below the liability floor, the insured entity is fully responsible to pay compensation to a claimant. In case the incurred damage is between the liability floor and the cap, the policy holder has to indemnify up to the amount of the floor, whereas the insurance undertaking pays compensation for all losses in excess of the floor amount. In case the losses exceed the

liability cap, the insurer pays for all damage between the floor and the cap. Whether floors and caps apply per annum, per case or per contract duration is a matter of negotiation.

Table 2: 'Excess of loss' insurance

Example	Incurred loss: EUR 100 million	Incurred loss: EUR 550 million	Incurred loss: EUR 900 million
Liability floor: EUR 150 million Liability cap: EUR 800 million	Insured entity pays EUR 100 million	Insured entity pays EUR 150 million. Insurer pays EUR 400 million.	Insured entity pays EUR 150 million + EUR 100 million = EUR 250 million. Insurer pays EUR 650 (= 800−150) million.

Source: CEP/Bigus.

As will be shown below, 'excess of loss' insurances can be (and have been) taken out by ICS to cover compensation claims exceeding a specific amount (the liability floor). The Irish ICS is currently insured by an 'excess of loss' insurance. For details see Section 3.3.

Insurance Pools

Insurance pools are mainly applied in the civil aviation or in nuclear energy industry. They allow insurance of high-cost events which may occur with a relatively small number of insurance takers (airlines, nuclear energy producers). The advantage of an insurance pool is that several insurance companies cooperate to mutually bear the risk of a damage event (joint liability). Given the small number of insurers and the high costs upon damage event, it is clear that one single insurance undertaking is not able to offer such insurance.

Upon damage, the indemnity to the policy holder is paid using the means in the insurance pool. The distribution of payment obligations amongst participating insurance undertakings is usually determined in the contract that establishes the pool.

Box 3: Lloyd's of London

Lloyd's of London

Lloyd's of London is essentially the world's largest and best developed (re)insurance pool. It is an (re)insurance *market* rather than an (re)insurance *undertaking*. At Lloyd's, (re)insurance members work together in 88 'syndicates' in order to jointly (re)insure risks, and thus creating a pooling of risks. Often, different syndicates would subscribe to a single (re)insured risk and take on a certain share of that risk.

This institutional set-up enables large single risks to find (re)insurance. Whereas Lloyd's pool of syndicates would generally reinsure existing insurance contracts, Lloyd's might also become active as an insurer. As an example of such insurance, the Irish ICS (Investor Compensation Company Limited, ICCL) has concluded its 'excess of loss' insurance through Lloyd's.

3.2. Comparing the Basic Model with current insurance supply

3.2.1. Existing insurance coverage vs. Basic Model

Existing insurance products do not easily fit the Basic Model described above.

Firstly, there is an imperfect match of insured events. Whereas crime insurance might insure fraud, pecuniary loss liability insurance does not necessarily cover for administrative malpractice, operational error or bad advice.

Secondly, neither crime insurance nor pecuniary loss liability insurance are related to the failure of an insured entity.

Under the Basic Model, ICS are to compensate only if the investment firm is not able to repay money or to return assets as a consequence of for instance fraud. Hence, insurance contracts which are to (partly) replace ICS' payment obligations enter at a later stage than those comparable insurances existing on the market.

Thirdly, existing crime and/or pecuniary loss liability insurances rarely concern events which cause damage to a very large number of persons. This is very different in an ICS context where the insured event (e.g. fraud) can affect thousands of customers of an investment firm.

Table 3: Existing insurance coverage vs. Basic Model events

Basic Model Events	May be covered by the following existing insurances	Differences between currently available insurance and insurance in an ICS-context
fraud	crime insurance	- In an ICS-context, insurances cover damage only when the insured event leads to the investment firms' inability to pay back money/assets. - In an ICS-context, insurances might have a very large external dimension (covering damages of all customers of an investment firms).
- administrative malpractice - operational error - bad advice	pecuniary loss liability insurance	

Source: CEP/Bigus.

As can be seen in the box below, the United Kingdom is the only one Member State that decided to extent the coverage of its ICS to include bad advice.

Box 4: UK experience with coverage for damages caused by bad advice

Experience with covering bad advice in the UK

The British ICS ('Financial Services Compensation Scheme or FSCS') implicitly covers bad advice. It provides coverage if an UK authorised investment firm in default has caused a financial loss to an investor by breaching civil liability owed by the firm to the claimant (so-called civil liability test). Hence, the breach of every kind of contract obligation resulting in a loss to an investor triggers compensation. In many cases, this comes down to cases of bad advice.

Hence, the FSCS must provide coverage even in cases where a financial instrument can still be returned to the investor but has lost in value. This deviates from Article 2 (2) sub-para. 2 of the ICSD which only provides coverage if the investment firm is unable to repay investors' money or to return investors' financial instruments.

In fact, the UK regulation allows for an investor protection that goes beyond the ICSD's minimum standard. As a result, the British FSCS has to provide coverage in a significantly higher number of cases than other European ICS.[29]

	Total number of compensation cases of investment firms (1999-2004)
Germany	15
France	0
Italy	10
Spain	0
UK	1,608*
* in 2002/2003 89% of these failures resulted in bad advice	

3.2.2. Average cost of existing insurance coverage vs. ICS costs

Although there are certain similarities between existing insurance contracts and the type of insurance contracts necessary to cover the ICS Basic Model, it is nonetheless not useful to compare the average cost of crime or pecuniary loss liability insurance with current average contributions to ICS for the following reasons:

a) ICS today do not compensate according to the Basic Model (see chapter 2.1.1).

b) Depending on the Member State, national ICS offer different levels of protection as the ICSD only prescribes a minimum level of compensation (initially EUR 20,000; now EUR 100,000). Spain had introduced a protection level of EUR 100,000; France of EUR 70,000, the UK of GBP 50,000 (and implicitly covers 'bad advice'), Slovakia of EUR 50,000 and Greece of EUR 30,000.[30] Such different levels of protection make it difficult to aggregate ICS contributions.

[29] European Commission (2010b), Impact Assessment to the ICSD proposal; p. 106 et seq. using data from Oxera (2005b).

[30] See European Commission (2010b) at page 22.

c) Existing insurance contracts may cover damage up to a level which is very different from the ICSD level.

d) ICS's contributions are strongly influenced by the national legal provisions and the financing policy of the ICS. These are very different amongst ICS, as the present ICSD practically entails no rules on the actual financing of ICS. Therefore it is problematic to aggregate ICS contributions or compare them with market prices for existing insurances. For example: an ICS with an *ex ante* financing can be expected to charge much higher regular contributions than an ICS applying *ex post* financing. Moreover, contributions to *ex ante* ICS are very different, too (for instance depending on the past failures which members have to cover). Responses to a questionnaire sent to European ICS show that average yearly contributions to *ex ante* financed ICS vary from below EUR 6,500 to EUR 110,000 per scheme member.

3.3. Current and past use of private insurance contracts by ICS and/or investment firms

Neither the ICSD dating back from 1997 nor the current proposal by the European Commission amending the ICSD explicitly provide for the use of insurance contracts in order to (partially) provide compensation to clients of investment firms which cannot meet their obligations.[31] But as the ICSD does not exclude it either, until today, it has been a matter of national implementation of the ICSD, respectively national law (as well as of market forces and choices made by ICS and investment firms), whether or not ICS and/or investment firms are allowed to apply private insurance contracts and in how far these can substitute ICS contributions. The following chapter presents a selection of countries (both Member States and third countries) where insurance solutions are - or have been - in place.

At the same time, it should be kept in mind that a considerable number of investment firms has taken out professional indemnity insurance as a result of European regulatory provisions. Investment firms authorised only to give investment advice and/or to receive and transmit investors' orders *without holding investors' money or securities* must have

- an initial capital of EUR 50,000;
- a *professional indemnity insurance* covering all Member States or a comparable guarantee representing at least EUR 1 million applying to each claim and in aggregate EUR 1.5 million per year for all claims or
- a combination of both.[32]

Furthermore, investment firms which do hold investors' money or securities must have a certain (higher) amount of initial capital.[33] Investment firms which do not deal in any

[31] Full replacement of contributions to ICS by private insurance under the current ICSD seems only a hypothetical option since the Directive makes the existence of an ICS and membership for investment firms mandatory.

[32] Article 7 in connection with Article 3 (1) (b) (iii) of the Directive 2006/49/EC of the European Parliament and of the Council of 14 June 2006 on the capital adequacy of investment firms and credit institutions (recast). See also Article 31 (1) of proposed CRD IV (Proposal COM(2011) 453 for a Directive of the European Parliament and of the Council on the access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms and amending Directive 2002/87/EC of the European Parliament and of the Council on the supplementary supervision of credit institutions, insurance undertakings and investment firms in a financial conglomerate) in connection with Article 4 (8) (c) of proposed CRR (Proposal COM(2011) 452 for a Regulation of the European Parliament and of the Council on prudential requirements for credit institutions and investment firms).

[33] In general, investment firms must have capital of at least EUR 730,000; Article 9 of the Directive 2006/49/EC of the European Parliament and of the Council of 14 June 2006 on the capital adequacy of investment firms and credit institutions (recast). See also Article 28 (2) of the proposed CRD IV (Proposal COM(2011) 453 above).

financial instruments for their own account but offer certain services must have a lower amount of initial capital.[34]

Below we take a closer look at different insurance solutions in a number of Member States. We focus on Ireland which shows the most developed insurance scenario. In addition, we added South Africa and Canada as non-EU countries in order to gather additional insights about different ways to deal with ICS alternatives.

3.3.1. Ireland

The Irish ICS ('Investor Compensation Company Limited', ICCL) has taken out insurance to cover losses that exceed the scheme's reserves. The Investor Compensation Act (1998) provides for the legal basis to do so.[35] This 'excess of loss' insurance provides coverage for claims exceeding EUR 15 million. The compensation scheme has two separate funds, Fund A and Fund B. While Fund A comprises credit institutions, stockbrokers and authorised investment firms, Fund B covers multi-agency intermediaries, authorised advisers and insurance agents.[36] For Fund A, the upper liability cap is EUR 65 million (meaning insurance coverage of up to EUR 50 million), whereas it is EUR 25 million for Fund B (insurance coverage up to EUR 10 million). This difference is a result of '*differences in business models*' and of the lower relative premium which Fund B participants have to pay.[37] This means that, although there are more Fund B participants (5,233 in 2011) compared to Fund A participants (222 in 2011), the total annual contributions to Fund A (EUR 3.5 million) are larger than those of Fund B (EUR 1.7 million).

The first insurance contract has been concluded by ICCL in 2010 and covered a one-year period beginning in October that year. On 1 October 2010, ICCL paid its first premium which summed up to EUR 305,000 (Fund A: EUR 265,000 and Fund B: EUR 40,000).[38] The contract has then been renewed for another year (to October 2012). ICCL is currently seeking renewal of its insurance.

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[34] In general they will need EUR 125,000; Article 5 (1) of the Directive 2006/49/EC of the European Parliament and of the Council of 14 June 2006 on the capital adequacy of investment firms and credit institutions (recast). See also Article 29 (1) of the proposed CRD IV (Proposal COM(2011) 453 above).

[35] Investor Compensation Act (1998) Section 12: '*The Company ("ICCL") shall have the power to do anything which appears to it to be requisite, advantageous or incidental to, or which appears to it to facilitate, either directly or indirectly, the performance by it of its functions as specified in this Act or in its memorandum of association*'.

[36] List of type of participants in each fund of the Irish ICS see http://www.investorcompensation.ie/funds.php.

[37] ICCL (2011), Annual Report, p. 17.

[38] ICCL (2011), Annual Report, p. 17, 22, 23.

Table 4: Key figures of the Irish Investor Compensation Scheme's insurance

ICCL	Fund A	Fund B	Total
Participants (2011)	222	5,233	5,455
Total contributions (2011 in EUR)	3.5m	1.7m	5.2m
Average contribution per participant (2011 in EUR)	15,766	325	953
Standing funds (2011 in EUR)	22m	17.8m	39.8m
Liability floor (in EUR)	15m	15m	-
Liability cap (in EUR)	65m	25m	-
Insurance cost (2010/2011 in EUR)	265,000	40,000	305,000
Compensation costs (2010/2011 in EUR)	31,045	-	31,045

Source: ICCL (2011).

The insurance solution of the ICS in Ireland is unique in the EU. However, prior to the decision by ICCL to buy insurance, there were many discussions on whether it really is a feasible and profitable solution. The Morrogh Working Group, which was established by the Irish Minister of Finance in 2004, commented in 2006: '*The group is satisfied that insurance is not considered to be economically viable and it is not recommended on that basis*'. It explained its judgement with the need to make an in-depth analysis of the risks associated with the participants of the ICS that it deemed to be too costly.[39] ICCL itself has been sceptical of taking out insurance as well. In 2009, ICCL claimed it to be '*not [...] feasible*' to buy insurance as the scheme would have to make a detailed risk and actuarial assessment. Furthermore, there has been a lack of loss history data to assess the probability of damage events. What is more, the ICS existed only for a short period of time which made it impossible for insurance undertakings to foresee the frequency of loss occurrence in the future, and as a result, an adequate, risk-sensitive pricing of insurance contracts was not realisable.[40]

In spite of all these challenges, ICCL tried to obtain such insurance for a couple of years. However, with these obstacles in mind, it proved to be not viable to purchase such cover until 2010. Eventually, ICCL made use of the services of an insurance agent.[41] This agent directly negotiated with the lead Lloyds' underwriters and provided them with extensive information on the structure of the Irish market and the applicable legislation. This led to the ICCL being able to purchase insurance coverage in the end.

3.3.2. Austria

The Austrian Securities Supervision Act (Wertpapieraufsichtsgesetz, WAG) states that a pure ICS (in practice: only the Anlegerentschädigung von Wertpapierfirmen GmbH, AeW) has to refer to an insurance policy or to bank guarantees whenever the funding level of the scheme is below 5% of the total revenues of all of its members in a year. The insurance or bank guarantee has to provide coverage for '*the difference between the funding cap of 5% and the contributions already paid*'. The WAG explicitly states that losses stemming from criminal conduct shall be covered by the insurance policy (respectively by the bank

[39] Final Report of the Morrogh Working Group, p. 47, October 2006.
[40] ICCL (2009), p. 13, 22.
[41] ICCL made use of the services of Robertson Low Insurances Ltd.

guarantees). The yearly contributions paid by the ICS members serve in part (max. 50%) as means to take out the insurance or bank guarantees.[42]

AeW concluded an insurance covering fraud at member investment firms in the year 2009. The insurance contract has a liability cap of EUR 1 million per case and comes at a cost for the ICS of about EUR 125,000 each year.

3.3.3. Greece

The Greek ICS (Hellenic Deposit and Investment Guarantee Fund, HDIGF) has taken out insurance at the beginning of the century, but it terminated the insurance, since it considered it as being too expensive.[43]

3.3.4. Lithuania

The Lithuanian ICS (Liabilities to Investors Insurance Fund) has taken out insurance from 2005 to 2010. It covered 16 investors. The insurance was vested with a liability cap of EUR 56,000. There have been two reasons for the cancelation of the insurance coverage: i) a bankruptcy proceeding against a brokerage firm, and ii) a fraud case.

3.3.5. Germany

Unlike the model the Irish ICS chose, the German compensatory fund of securities trading companies (Entschädigungseinrichtung der Wertpapierhandelsunternehmen, EdW) opted for a solution in which the investment firms themselves can take out private insurance against pecuniary loss in exchange for a discount on their contributions to the ICS. This option, which is a voluntary one, exists since August 2009.[44]

In case members of EdW (investment firms and those credit institutions that carry out solely investment business activities, i.e. no deposit taking) hold crime cover insurance, the stipulated *ex ante* annual premium is reduced by 15%. However, the contribution discount is only granted where certain conditions are met. The crime cover insurance must meet the following conditions:[45]

- The insurance must cover losses caused by a 'trust person' (e.g. an employee) of the investment firm with intentional illicit conduct.
- There is a legal obligation to pay compensation due to intentional illicit conduct.
- The insurance comprises each and every employee of the investment firm, including the management body.
- The sum insured is not less than EUR 1 million.
- There is a deductible, i.e. a part of the damage which the investment firm has to pay, of at least 10% and 20% maximum.
- Whenever a trust person causes damage to the detriment of the firm, the insurance has to cover such losses (‘direct damage’). If the trust person harms a third party for whom the investment firm is liable, the insurance has to provide compensation as well (‘indirect damage’).

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[42] § 76 paragraph 1c Wertpapieraufsichtsgesetz 2007(WAG).

[43] Page 59 Vierte EdWBeitrV.

[44] (German) Vierte Verordnung zur Änderung der Verordnung über die Beiträge zu der Entschädigungseinrichtung der Wertpapierhandelsunternehmen bei der Kreditanstalt für Wiederaufbau (VierteEdWBeitrV, 17 August 2009).

[45] § 2d VierteEdWBeitrV.

3.3.6. Spain

In Spain, between 2001 and 2002, asset managers could partially substitute ICS membership by private insurance. However, as a number of problems occurred, this possibility has been subsequently deleted. According to the Spanish ICS, the main problems have been: i) a limited insurance offer, in part due to limited knowledge of investment firms' business on the side of insurance undertakings, ii) difficulties between investment firms and insurance undertakings as to reach agreement on the scope of risks covered by insurance, and iii) insurance policies being expensive.

3.3.7. Sweden

In Sweden neither the ICS nor the investment firms have taken out any insurance. However, the ICS (Investerarskyddet) is in principle allowed to buy insurance cover.

3.3.8. Italy

The Italian ICS (Fondo Nazionale di Garanzia) is legally able to buy insurance cover; however, it did not choose to do so until now. In case the ICS would decide to take out insurance, the participants of the scheme would be required to share the insurance costs.[46]

3.3.9. Finland

The Finnish ICS (Sijoittajien Korvausrahasto) is required by law to have a minimum level of EUR 12 million of funds available. Roughly one third of that amount has to be held in cash deposits and is financed by *ex ante* contribution by its members (in 2010 EUR 5.64 million was held in cash deposits). According to the ICS rules, the rest of the capital requirement (EUR 7.8 million) has to be covered either by taking out insurance or by committing to credit lines. As a consequence, ICS members do not have to pay any 'usual' *ex ante* contributions if the cash deposits exceed the amount of EUR 4.2 million; however, they have to pay contributions so that the ICS is able to take out insurance or refer to credit guarantees.

Sijoittajien Korvausrahasto has chosen not to refer to any kind of insurance policy.[47] The scheme stated in the annual report in 2004: '*Covering the minimum capital by means of a credit commitment is substantially [more] advantageous than by means of an insurance*'. Insurance turned out to be too expensive. Therefore it decided to refer to credit lines that amounted to EUR 8.5 million in 2004.[48]

3.3.10. Malta

Besides borrowing or otherwise incurring indebtedness, the ICS in Malta is allowed to take out insurance '*for the purposes of the scheme's functions*'. However, borrowing is limited to 30% of the ICS's net asset value.

In addition, whenever a member of the ICS holds professional indemnity insurance (or a similar arrangement) the compensation paid by the scheme in case of a loss event is to be reduced. The respective provision states that '*the Management Committee [...] shall take into account any payments made under a policy of professional indemnity insurance*'.

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[46] Oxera (2005b), at p. 123 and 77; Article 17 of bylaws to Article 15 of Law no. 1 of 2 January 1991, National Compensation Fund, December 2011.

[47] 2004 has been the first year the Finish ICS was legally able to obtain credit lines. Prior to that year, the ICS actually held an insurance policy.

[48] Sijoittajien Korvausrahasto (2004a); Sijoittajien Korvausrahasto (2008), Section 15 and 15a; Oxera (2005b), Appendix, p. 32.

Therefore the Committee has to reduce the compensation payment of the ICS to the affected investor by the amount such insurance is paying.[49]

3.3.11. United Kingdom

Although the British ICS (Financial Services Compensation Scheme, FSCS) does not use insurance policies, national regulations explicitly provide for them: '*FSCS may consider obtaining insurance cover, if available, if the risk that the value of claims FSCS pays out exceeds the levy limits of [...] particular* classes *or* sub-classes.'[50] This has also been addressed in a 2006 Discussion Paper of the FSA stressing that insurance '*could be an attractive way of smoothing costs and pricing risks before passing them on to the industry*' for ICS.[51] Furthermore, the FSCS may oblige its members to finance the costs of such insurance with a management expenses levy.[52]

Just recently in July 2012, the FSA has published a consultation paper,[53] focussing on the key elements of the current funding model for the FSCS. Although the consultation paper discussed some changes to FSCS' funding, it essentially proposes to maintain the current funding model. Insurance policies do not play a role in the consultation paper.

3.3.12. Canada

The Canadian Investor Compensation Scheme (Canada Investor Protection Fund, CIPF) has taken out an 'excess of loss' insurance in mid-2007 with a liability floor of CAD 100 million and a liability cap of CAD 200 million.[54] CIPF's reason to do so has been a strong increase in net equity of its members.

In 2010 CIPF decided to prolong the insurance contract. Whereas it left liability floor and liability cap unchanged, it reduced the insured sum from CAD 100 million to CAD 70 million. In 2011 the liability floor was set again at CAD 100 million whereas the liability cap was increased up to CAD 226 million, resulting in an insurance coverage of CAD 116 million. In addition to the external insurance coverage, the Canadian ICS increased its general fund balance by resorting to lines of credit (see table below).

As can be seen in the table as well, the expenses of CIPF for lines of credit and for the 'excess of loss' insurance have increased steadily between 2006 – the year before CIPF decided to take out insurance – and 2011,from CAD 180,000 to CAD 1,141,000.[55]

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[49] Maltese Regulation on Investor compensation scheme, Legal Notice 368 of 2003; as last amended by Legal Notice 62 of 2011, Article 6 paragraph 3, Article 21.

[50] Financial Services Authority - FSA (2012a), Section 6.1.16A.

[51] Financial Services Authority - FSA (2006), Section 6.11, p. 31.

[52] Financial Services Authority - FSA (2006), Section 6.1.10.

[53] Financial Services Authority - FSA (2012b), Consultation Paper CP12/16.

[54] CIPF exists since 1969. It has approximately 200 members and there have been 18 insolvencies since its establishment leading to a total amount of compensation of CAD 36 million. If there are claims by the customers of member institutions that are less or equal to CAD 100 million a year, the ICS is obliged to pay full compensation. If the total claim exceeds CAD 100 million a year, the insurance has to take cover compensation payments of up to CAD 100 million.

[55] Canadian Investor Protection Fund (2008), p. 1, 4, 6, 11; Canadian Investor Protection Fund (2009), p. 4, 6, 10; Canadian Investor Protection Fund (2010), p. 7, 11; Canadian Investor Protection Fund (2011), p. 8, 10, 13, 19; Canadian Investor Protection Fund (2012), p. 4, 14; and Canadian Investor Protection Fund (2011b), p. 4, 11.

Table 5: Funding and Expenses of the Canadian ICS (CIPF)

CIPF funding	2006	2007	2008	2009	2010	2011
General fund balance in CAD million	-	313	346	359	382	409
Lines of credit in CAD million	-	100	100	100	100	125
'Excess of loss' insurance cover in CAD million	-	100	100	100	70	116
Total fund balance in CAD million	-	513	546	559	552	650
Expenses	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Expenses for lines of credit and insurance in CAD 1000	180*	455.2	592.8	927.7	1,028.5	1,141.8

Source: Canadian Investor Protection Fund (2008, 2009, 2010, 2011, 2012).
Note: *without insurance.

Moreover, while the CIPF provides coverage for up to CAD 1 million per customer per investment undertaking, a member of CIPF may buy insurance to secure client's losses that go beyond the CAD 1 million threshold. This 'extra' protection is voluntary. Thus, members of the scheme can decide whether or not and at which level they offer this additional coverage to their clients.

3.3.13. South Africa

The ICS in South Africa has chosen to rely on a type of crime insurance named 'Universal crime bond policy'. This is basically a crime insurance concluded by the ICS for all of its members. All custodians have to pay risk-adjusted contributions to cover the costs of the insurance policy. Cost coverage is also provided by interest made out of investments of the scheme.[56]

Table 6: Overview of insurance taking at selected European ICS

ICS	Insurance taking by investment firms as substitute to ICS	Insurance taken out by ICS	Insurance taking by ICS possible as an option in national law.	Insurance taking by ICS foreseen as an obligation (given certain conditions) in national law
Ireland		☑		
Austria (AeW)		☑	☑	☑
Greece		☑ (in the past)	☑	
Lithuania		☑ (in the past)		
Germany (EdW)	☑			
Spain	☑ (in the past)			
Sweden			☑	
Italy			☑	
Finland			☑	☑
Malta			☑	
UK			☑	

Source: CEP/Bigus.

[56] Panagora Consulting (2010).

4. FULL REPLACEMENT OF ICS BY PRIVATE INSURANCE CONTRACTS CONCLUDED BY SERVICE PROVIDERS

KEY FINDINGS

- A full replacement of investor compensation schemes (ICS) by private insurance taken out by the investment firms has the following benefits:
  1. It will improve risk assessment and risk controlling since insurers have strong incentives to charge risk-sensitive premiums (most ICS currently do not).
  2. Risk-sensitive charges will improve the investment firm's incentives and will improve competition.

- There is a conditional benefit: Risk diversification will *only* improve if insurers have larger pools of investment firms with similar risks.

- There are also disadvantages:
  1. Insurers may have – at least temporarily – a lack of quantitative data and, additionally, less expertise on investment industry than ICS do which impairs risk assessment and risk controlling.
  2. Insurers will ask for actuarial risk assessments. Fixed costs of risk assessment may drive small investment firms out of the market.
  3. Insurers need to earn a profit margin, ICS not necessarily.
  4. Insurers may care less about reputational capital of the investment industry which is important in damage cases which are not clear from a legal point of view.

- If insurers are not willing to offer unlimited coverage per investment firm – which is likely – an ICS is still necessary. In this case, additional problems might occur (e.g. double risk monitoring and assessment, frictions in damage compensation) which are discussed in more detail with partial replacement of ICS (chapter 5.).

- Alternatively, the ICS *itself* may buy insurance cover for damages incurred by its investment firms. From an economic perspective, this could make sense if there is an 'excess of loss' insurance which only covers damages exceeding a specific amount ('floor', like for instance EUR 15 million in Ireland) up to another specific threshold ('cap', e.g. EUR 50 million in Ireland). In this situation, there is an insurance effect: benefiting from the insurers' and ICS' comparative benefits without distorting incentives too much.

- Risk diversification will be improved if several insurers *together* provide insurance for the ICS (as actually is the case in Ireland) or for large investment firms. But such *insurance pools* tend to reduce competition between insurers.

- For a variety of reasons, the willingness of insurance undertakings to offer full private insurance to investment firms covering all four events of the Basic Model is close to zero. Allowing for liability caps only slightly increases the likelihood of supply of such insurances and comes at the cost of cover falling below the levels of the (ICSD) Directive .

- Data suggests that for investment firms, even private insurance contracts with a liability cap of EUR 5 million covering all four events of the Basic Model on average come at a significantly higher cost than ICS membership. However, given a number of

methodological problems, this fact does not allow us to draw any conclusions on the efficiency of neither private insurances nor ICS.

- Given lack of sufficient empirical data and sufficiently reliable answers to our questionnaires, we are not able to conclude on the economic usefulness of 'excess of loss' insurances by ICS.

- From a legal point of view, 'mandatory insurance' seem achievable by imposing an insurance obligation on investment firms, rather than an obligation to offer insurance on insurance undertakings. Purchasing insurance might prove difficult to *ex-post* financed ICS. Winding down ICS and replacing them in full by private insurances creates a number of legal challenges. ICS deny the role of judging whether a private insurance brought forward by an investment firms might offer cover comparable to the ICS.

4.1. Introduction

4.1.1. Full versus partial insurance, mandatory versus voluntary insurance

Insurance coverage can differ at least across two dimensions. Insurance contracts may partially or fully take over the risks from the ICS. With full insurance, all four Basic Model events (fraud, administrative malpractice, operational error and bad advice) are taken over, for a perfect match without any restriction, e.g. no application of a cap. With partial insurance, the insurer only pays damages related to a subset of these four risk events, for instance, fraud and administrative malpractice (or it applies a cap). The ICS has to take over the remaining risks then (e.g. the risks related to operational error and bad advice).

Another important question is whether there should be mandatory or voluntary insurance. Only in the mandatory scenario, all investment firms (including banks engaging in investment services) must buy insurance.[57] The scenario of voluntary insurance reflects the current situation. In the case that insurance contracts fully replace ICS coverage, we assume this to be realistic – if at all – only under a mandatory insurance scheme. Consequently, there are three options:

- full and mandatory insurance,
- partial and mandatory insurance,
- partial and voluntary insurance.

Ideally, there is coverage for all investors of a failing investment firm or bank, regardless of the number of investors. However, with a big investment firm or a large bank engaging in investment activities an insurer might be unwilling to offer unlimited coverage. Usually, insurers *do* limit coverage. If so, an ICS might be necessary even in the case of full and mandatory insurance for damages exceeding the limit (see chapter 4.2.4).

Finally, one can distinguish between the cases where the insurer contracts with the investment firm directly or with the ICS. Generally, we assume contracts with the investment firm. There is a separate chapter on insurance contracts taken out by the ICS (see chapter 4.2.5).

[57] We generally use the term investment firm also for banks/credit institutions engaging in investment activities. If we want to show differences between these two types of financial institutions, we will use the term 'bank'.

4.1.2. Risk types and its drivers

There are four types of risks ('events') to be covered: fraud, administrative malpractice, operational errors and bad advice according to the EP's resolution on which the Basic Model is based. The EP's resolution is silent on burden of proof but does not indicate that a deviation from the initial ICS set-up was intended where investors do not need to prove intentional behaviour and causation, but only that they have a claim which is due against the investment firm. As this is to the advantage of investors, this burden of proof set-up is part of the assumed Basic Model (even though it is not clarified in the EP's resolution).

According to our interpretation, fraud risk addresses investors' losses from criminal offences by the investment firm or its employees, e.g. by theft, fraud in the narrow sense and defalcation. Whereas fraud refers to penal/criminal law, the other three risk types (administrative malpractice, operational errors and bad advice) are rather related to tort/civil law. However, all four risk types might be interpreted differently in different jurisdictions. Consequently, the probability of coverage by insurers might differ across countries as well.

Again, according to our assumed Basic Model scenario, investors only need to prove that a valid and due claim against the investment firm/bank exists. Administrative malpractice reflects an investment firm's or its employee's negligent behaviour in executing investors' orders. Bad advice by the investment firm or by its employees may induce an investor to take the wrong investment, selling or holding decisions. Operational errors in the investment firm can cause damages to investors. Examples are flaws in internal processing or in information systems.

Potential drivers influencing the probability and/or size of damages are:

- whether the investment firm is authorised to hold client assets or not. For firms being authorised to handle clients' assets, it is easier and more tempting to commit fraud and operational errors might be more likely as well;
- whether the investment firm is authorised to trade securities for their own account or not. Trading for own account may increase the risk of huge losses. Huge losses will impair the value of other assets and may even induce risky (malpractice) or even fraudulent behaviour, e.g. in order to hide losses;
- whether it is an investment firm or a bank engaging in investment services. Banks are often more complex and it might be easier to commit fraud. On the other hand, banks are better able to diversify risks due to a broader scope of businesses. Banks also face stricter rules on reporting and disclosure and higher capital requirements;
- whether there is an (efficient) internal control system which is aimed to reduce fraud risks but also to avoid/diminish operational errors and malpractice;
- whether the size of the investment firm is big or small. Larger financial institutions are more likely to have higher exposures and, thus, higher damages.

4.2. Economic issues

4.2.1. General economic criteria

In order to evaluate whether full or partial insurance might be desirable form an economic point of view, we have to address the consequences for the parties' incentives, for risk assessment and controlling, for risk diversification and risk allocation, for administrative costs, competition and other costs and benefits.

Box 5: Economic criteria to evaluate costs and benefits of insurance contracts

Economic criteria to evaluate the cost and benefits of insurance contracts

- Incentives for insurance undertakings, ICS and investors,
- Risk assessment and risk controlling of investment firms by insurance undertakings and ICS,
- Risk diversification and risk allocation of insurance undertakings and ICS,
- Administrative costs (including costs of damage compensation) of insurance undertakings and ICS,
- Effects on competition.

Incentives: Investor compensation and/or insurance will affect the behaviour of insurers, investment firms and the ICS. The effect on investors' incentives is negligible as retail investors are not likely and not in a position to carefully screen and monitor an investment firm. The insurance should be designed in a way to provide the right incentives to investment firms in order to reduce moral hazard problems which may increase the likelihood and/or the size of potential damages. In principle, investment firms should pay for the expected costs which they may impose on the system.[58] While an insurance in itself generally distorts the investment firm's incentives, risk-sensitive charges or deductibles[59] usually mitigate such distortions.

Risk assessment and risk controlling: Insurers and ICS need to have appropriate incentives in order to reduce the likelihood and/or the size of potential damages by proper risk assessment and risk controlling. The investment firm's risk needs to be properly screened and monitored to ensure efficient pricing of insurance/ICS charges which in turn helps to improve incentives of the investment firm. Whereas risk assessment requires the collection and processing of information, risk controlling implies to take appropriate action based on this information, e.g. raising or lowering the charges. There are other tools such as more frequent audits and contracts which ask the investment firm to e.g. install trading book limits or an (effective) internal control system or to perform risk hedging activities. Proper risk assessment and risk controlling depend on both, the knowledge/qualification and the incentives of insurers and ICS. Generally speaking, an insurance system should be designed in such a way that it provides better incentives than when being without one. As a matter of principle, an insurance contract will always distort the incentives of the insurance beneficiary who then does not have to bear in full the consequences of damages. The challenge is to find an insurance contract which minimises distortions of incentives.

Risk diversification: This point addresses the question whether there are enough investment firms with similar risks in the ICS or insurance pool. Portfolio theory suggests a minimum number of about 30-50 single risks in a portfolio to ensure sufficient risk diversification.[60] The heavier the expected systemic effects are, the bigger the portfolio (insurance pool) should be; which means that more single risks (investment firms) should be included in the insurance pool. Risk diversification and insurance work best if potential damages are quite similar across investment firms. Thus, if there are a few very large investment firms with high risk exposure, it will be difficult to find insurance on the basis of unlimited coverage. If insurers and ICS both cover the investment firms' risks one needs to make sure that the portfolios are both sufficiently large and sufficiently homogenous in terms of risk exposure.

[58] Oxera (2006), p. 29.
[59] Deductibles are small damages paid by the investment firm (or the ICS if the ICS buys the insurance).
[60] See Markowitz, and also Brealey et al., p. 144.

Risk allocation: considers risk-sharing and risk-shifting issues. Risk-sharing addresses the question how many insurers besides the ICS bear the investment firms' risk and whether they bear it more or less equally. Risk-shifting relates to mechanisms which allocate high or low risks differently between the insurers and the ICS. From an economic point of view, higher or more risk should be allocated to the party for which it is less costly to bear it.

Administrative costs: contain the costs of risk assessment and risk controlling, but also the profit margins that insurers will have to realise in order to meet their shareholders' required return. Last, but not least, administrative costs include the transaction costs of damage compensation, such as cost of administering the payout, possibly lawyer and court fees etc. Such costs may increase if there are quarrels on whether the ICS or the insurer has to compensate or whether the insurer has to pay at all. Further, investors may not know to whom to address a claim, causing cost for distributing information or re-directing requests. Obviously, administrative costs should be as low as possible.

Competition: This criterion requires that the insurance (and ICS) charges should not distort market structures but rather be related to the expected costs that the investment firm imposes on the system.[61] It is obvious that a less risky firm should pay lower insurance charges than a high-risk one. However, imposing risk-adjusted charges may raise the market entry costs of smaller investment firms. Competition addresses the insurance market, too. State-owned insurance may distort the market structure as well, e.g. by inefficient pricing.

Other costs and benefits: Systemic effects represent an important type of cost which we will deal with in more detail in chapter 6. Changes in the regulatory environment might impair (but also improve) the reputational capital of institutions. For instance, if an ICS has a long history of only few damage claims, investors will attach a reputation of efficient risk assessment and risk controlling to the ICS. An insurance firm needs to establish and maintain this reputation. One benefit of partial or mandatory insurance might be that the information on insurance premiums could be useful to supervisory agencies and/or to the ICS or even the investors (if disclosed).

There is **tension between** some of those **criteria**.[62] The more risks can be pooled (by an insurer or by the ICS) the better will be risk diversification and the lower might be administrative costs. However, better pooling also implies that the investment firm bears less responsibility such that incentives are more likely to get distorted. The more refined risk assessment and risk controlling are, the better the incentives for investment firms are. However, administrative costs are likely to increase as well.

4.2.2. Potential benefits of full mandatory insurance compared to the current situation (no full insurance)

The full mandatory insurance scenario implies that insurers bear all four types of 'event' risk in an unlimited way, so that it is not necessary anymore to maintain an ICS. One important benefit of full insurance might be **improved risk diversification** *if* the insurers have larger pools of investment firms than ICS have. This is more likely to happen with a lower number of insurers, that is, with a more concentrated insurance market. For instance, let us assume hypothetically that there are 300 investment firms and ten ICS where each ICS has 30 investment firms. If there are four insurers taking over 75 investment firms each, the pools increase and risk diversification *tends* to improve. Whether this is the case, also depends on whether there are a few investment firms with outstanding size in the pool. If this is the case, risk diversification may not improve.

[61] Oxera (2006), p. 29.
[62] Oxera (2006), p. 31.

Table 7: Number of (investment) firms and failures in selected Member States

	Number of firms (2003)	Number of failures 1999-2009	Highest total payout for a failure 1999-2009 in million EUR	Average payout per failure 1999-2003 in million EUR
Austria (AeW)	885	1	Current estimate: 11	11
Belgium	138	1	2.6	2.6
Bulgaria	n.a.	0 (2004-2009)	0 (2004-2009)	0 (2004-2009)
Cyprus	28	0	0	0
Czech Republic	70	15	56	n.a.
Denmark	220	1	1.6	1.6
Estonia	18	0	0	0
Finland	376	0	0	0
France	374	0 (1999-2003)	no data 2004-2009	n.a.
Germany (EdW)	1,023	18	Current estimate: 260	0.2
Greece	130	9	2.2	n.a.
Hungary	58	13 (1999-2003)	n.a.	1.3 (1999-2003)
Ireland	230	3	Expected: less than 8.5	about 3.2
Italy	961	15	5.7	0.8
Latvia	26	0	-	-
Lithuania	32	1	0.06	0.06
Luxemburg	218	0	0	0
Malta	44	0	0	0
Netherlands	337	6	0.1 (until 2009)	0.09
Poland	39	1	7.6	7.6
Portugal	76	0	0	0
Romania	n.a.	0 (2004-2009)	0 (2004-2009)	0 (2004-2009)
Slovakia	40	0	0	0
Slovenia	29	0	0	0
Spain (FOGAIN)	350	5	31.8	4.2
Sweden	208	1	n.a.	n.a.
United Kingdom	3,850	1,608 (1999-03)	23 (1999-2003)	0.35 (2000-2003)

Sources: Oxera (2005a), p. 20-21, 41, 79, 125, 130. European Commission (2010b), p.106-108, www.e-d-w.de (31 October 2012), www.aew.at.

Notes: n.a.: not available. The schemes in Belgium, Denmark, Estonia, Finland, France, Greece, Hungary, Italy, Lithuania, Luxemburg, Malta, Poland, Portugal, Slovakia, Sweden, United Kingdom include both investment firms and banks. The other schemes address investment firms only (unclear in Bulgaria and Romania). In Ireland, 3,360 member firms were not considered, since, according to EU law, they are not required to be covered by the scheme. In the UK, the same applies to 3,856 firms. In the UK scheme, most cases relate to bad advice, '*only 1-2% are due to losses resulting from embezzlement or theft of client assets*' (Oxera, 2005a, p. 40).

There are some ICS, though, which already have a large number of participating investment firms and/or banks such that, *potentially*, there is sufficient risk diversification. Examples include the FSCS in United Kingdom, the ICCL in Ireland, the ICS in Italy, and the EdW in Germany (members in 2004: 7,706; 3,590; 961; 776).[63] However, the EdW is a good example where the failure of a huge investment firm with outstanding size (Phoenix Kapitaldienst GmbH) caused severe problems for the ICS.[64] Damages which occur with a failure of a huge investment firm or bank may be too big to be covered by one ICS or one insurance undertaking. This is why insurance undertakings usually provide only for limited coverage, e.g., with catastrophic risks and car insurance, but also with auditor liability insurance.

Another interesting solution to this problem could be **risk pooling** (see insurance pools within chapter 3.1.2). This may take place either by one (or at least very few) large insurance undertaking(s) pooling cover for all big investment firms in Europe. Alternatively, several insurance undertakings together may share the risk of a single large investment firm. Such model, comparable to Lloyd's of London (see the Box 3, p. 21) improves risk diversification at the risk of diminishing competition amongst insurers). Such risk pooling may take place both at the level of 'first insurance' and on the level of re-insurance.

Currently, risk diversification with some ICS is certainly not sufficient (in particular in small Member States with several ICS) so that an insurance solution seems more desirable. For instance, the banking scheme for Austrian mortgage banks and German public banks only includes 12 and 19 banks, respectively.[65] Some other schemes have about 60-80 members where the level of risk diversification still is improvable (e.g. the Portuguese ICS with 76 members). Even ICS with many member firms may lack sufficient risk diversification if they cover a few firms with outstanding size. Noteworthy, it is not just the amount of members that is decisive for risk diversification. In addition, the size of the investment firms and the volumes invested matter.

There might be another benefit assuming that insurers and ICS have the same information on the investment firm's risk.[66] Insurers have strong incentives to ask for **risk-sensitive insurance premiums** whereas ICS charges often are not sufficiently based on the investment firm's risk. Indeed, the European Commission reports that only the ICS in France considers an explicit risk-weighting (in terms of a probability of default of a firm).[67] Six other countries tie the ICS charges to the firm's license or business activities. The remaining 20 EU Member States do not consider risk aspects. ICS charges are rather based on other characteristics such as the value of the financial instruments held or managed, the number of clients, the revenues or income generated by investment business, the firm's level of capital, the maximum amount of compensation per client, the average turnover of securities sale and purchase transactions and the number of approved persons or traders.[68] Such items do not necessarily reflect well the investment firm's risk.

In addition, risk controlling might improve because insurers are keen on avoiding an investment firm's failure. With risk-sensitive charges and proper risk controlling, **investment firms' incentives will improve,** too, as they are more likely to internalise the consequences of risky behaviour which is to the benefit of the whole industry. Moreover, risk-sensitive charges reduce cross-subsidisation between firms, i.e. low-risk

[63] Oxera (2005a), p. 20-21.

[64] Bigus and Leyens (2008).

[65] Oxera (2005a), p. 20-21.

[66] The EP's Resolution on the basic model does not exclude risk-sensitive insurance charges (or levies), neither does the Directive 97/9/EC on ICS.

[67] European Commission (2010b), p. 83-94.

[68] European Commission (2010b) at p. 83.

firms paying for high-risk firms. Finally, insurers will ask for charges *ex ante*, before damages happen, whereas now some investor compensation schemes (partly) collect charges only after damage occurred. Even though the majority of European ICS is pre-funded, there are still Member States with some *ex post* funding.[69] It is obvious that an *ex post* scheme provides little incentives to avoid failure. Overall, risk-sensitive charges and better risk controlling will enhance competition between investment firms provided that they are able to cover the cost attached.

Two caveats have to be mentioned though, which are linked to each other. Compared to the ICS, insurers may have **less experience** regarding the investment business so that risk assessment is likely not to be perfect. Insurers will probably mainly rely on quantitative risk indicators also because they may lack qualitative information and the expertise to interpret it correctly. For data protection reasons, insurers may also find it difficult to acquire this sort of information from supervisory authorities. The same reasons might make it more difficult for insurers to find re-insurance.

Second, if properly done, firm-specific (quantitative) risk-weighting requires considerable information gathering which is costly for insurers but also for investment firms (**high administrative costs**). Note that neither the ICSD nor the European Commission's proposal (June 2010) require risk-based fees. The ICCL reports that in the past, it has not been able to obtain insurance coverage mainly because the ICCL should have undertaken an actuarial assessment and detailed risk analysis of the single investment firms.[70] The main problem is the lack or unavailability of current and historic risk-sensitive quantitative and qualitative firm specific data. In Finland and Greece, the ICS dropped insurance contracts because premiums were too costly.[71] In a number of Member States ICS are already allowed to take out insurance contracts, or are even obliged to do so in certain circumstances (see table 6). However, we were unable to find evidence that investment firms concluded full insurance contracts. The absence of insurance contracts suggests that a market solution is difficult to achieve.[72]

4.2.3. Potential costs of full mandatory insurance

There are costs to be expected when ICS would be fully replaced by private insurances:

- As already mentioned, the lack of insurers' experience regarding the investment industry implies that **risk assessment** may not improve.
- Investment firms will also have to pay for the **insurer's profit margin (and insurance selling taxes)** which increases administrative costs.
- Insurers may be less concerned of destroying **reputational capital** of the investment industry or a certain group of investment firms or banks. Consequently, insurers are less likely to pay damages than ICS if there are investor compensation cases which are not clear from a legal point of view. This may become important in particular if the Directive remains silent on the burden of proof and if the Basic Model might be interpreted in a way which that requires investors to prove fraud, negligence or causation.

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[69] European Commission (2010b), p. 80. Even though Article 4a of the ICSD proposal explicitly prescribes an *ex ante* target fund level, *ex post* funding might still be necessary. Insurers may also define target fund levels differently.

[70] ICCL (2009), p. 13, 24.

[71] Oxera (2005), p. 35.

[72] However, ICCL (2011) reports that it concluded a so called 'Excess of Loss' insurance contract for ICS damages exceeding EUR 15 million. Coverage is limited by a cap of EUR 50 million (for banks and investment firms), see ICCL (2011), p. 17, 22, 61.

- **Insurers may fail** as well. If a big insurer fails and no, or insufficient, re-insurance exists, the government might be forced to bail out. Even though the level of interconnectedness is smaller with insurance firms than with banks, an insurer's failure may severely affect other financial institutions (one example is AIG in 2008). Larger portfolios improve risk diversification, but they also let insurers grow and may cause a bigger systemic risk. Pooling solutions (several insurers provide insurance together) might reduce the single risk borne by one insurer. However, it may restrict competition and systemic risks remain.
- The evidence on other catastrophic risks suggests that the insurance market is likely to get disrupted after a **major loss event**. As a reaction, insurers raised prices, limited coverage, cancelled policies or even retreated from the market.[73] So after a major loss event, it might be necessary to establish an ICS again.

4.2.4. Consequences of limited insurance coverage per investment firm

In order to achieve better risk diversification, insurers are likely to offer contracts only with limited coverage. We observe limited coverage in other insurance markets as well. For instance, the insurer may cover damages up to EUR 100,000 per investor, but only to a pre-specified upper limit per investment firm, e.g. EUR 50 million per firm. If the damage is EUR 250 million – as with the German Phoenix Kapitaldienst GmbH case[74] in 2005 –, EUR 200 million would not be covered.

Two questions arise. Should there still be an ICS in place in order to cover the losses exceeding EUR 50 million? Would it not be better to stick with the ICS system because there is no limit on coverage?

We will discuss the first question in more detail in the context of partial insurance. There, we will argue that the co-existence of insurance firm and ICS may cause specific incentive problems and co-ordination problems.

With regard to the second question, one has to keep in mind that ICS funds are limited as well. In fact, even with unlimited liability there will always be limited coverage because the ICS assets are limited. Currently, no ICS is able to fully cover investors' losses if a large investment firm/bank fails. *Ex post* funding and a borrowing mechanism between ICS as proposed by European Commission[75] may increase coverage for the first big firm(s) failing. However, this usually leaves less money for other (large) firms falling subsequently if this happens shortly after. Moreover, borrowing mechanisms may distort incentives of the national ICS.[76]

[73] Jaffee (2005).
[74] See Bigus and Leyens (2008), p. 63.
[75] European Commission (2010a), Article 4b.
[76] See Bigus and Leyens (2008), p. 85.

4.2.5. Insurance taken out by the investor compensation scheme

The ICS may buy insurance cover for damages incurred by their investment firm members. In this case, the ICS is the insurance taker and the investment firm members (or respectively their clients) are the beneficiaries of such insurance. On the one hand, an apparent benefit to this solution is the savings in administrative costs, since there is only one contract with each ICS instead of many contracts with the investment firms.

On the other hand, the insurer will nevertheless want to have a detailed risk analysis of the investment firms covered (see ICCL, 2009) which may even increase overall administrative costs. Moreover, the ICS may have fewer incentives to assess and to control the risks if there is full insurance cover. If insurance coverage is limited, the ICS's incentives may improve. However, as both, the ICS and the insurer, will assess and control the risk this may (possibly) result in double and inefficient work. Incentives for proper risk assessment and controlling may also be distorted since one party (e.g. the insurance undertaking) bears the costs of doing so, whereas the other party, e.g. the ICS, benefits from it as well.

Consequently, the question arises why insurers should not directly insure the investment firms. ICS will only be needed if insurers do not provide unlimited coverage, if the problems of double risk evaluation and controlling, and if incentive and coordination problems between ICS and insurers are negligible. Otherwise, a full replacement of the ICS seems to be a better option.

The ICCL (2011) reports that they bought a so-called 'excess of loss' insurance which covers damages exceeding EUR 15 million up to a limit of EUR 50 million for investment firms and banks. Such a scheme has some beneficial features. First, the ICS has strong incentives to effectively assess and control risks whereas the insurer does not need to perform a detailed risk analysis of each investment firm. Probably, the insurer will have a closer look at the proper functioning of the ICS's risk assessment and risk controlling and at the bigger investment firms in the pool. Risk allocation improves if the insurer has a larger pool of single risks which enables the insurance undertaking to insure large losses (better than the ICS). However, the insurance undertaking in the case of ICCL does not take over large risks exceeding damages of EUR 50 million. This ensures proper risk diversification; however, it also implies that investors' damages from large investment firm failures have to be paid by the ICS or – more likely – by the taxpayer. Still, from an economics perspective, the ICCL model is certainly favourable to those ICS that currently have a small number of investment firms and/or which do not ask for risk-sensitive charges.

4.2.6. Summary

There are three options for *investment firms* buying insurance: (1) full and mandatory insurance, (2) partial and mandatory insurance, (3) partial and voluntary insurance. Full insurance covers all four event risks (fraud, administrative malpractice, operational error and bad advice), partial insurance only a subset of them.

The probability and the size of damages to be covered depend on characteristics of the investment firm, such as whether the firm is authorised to hold client assets or trade securities for their own account, whether there is an efficient internal control system and how big the firm is. Most likely, banks engaging in investment activities have a different risk profile than investment firms.

The question if **full and mandatory insurance** is economically desirable **compared to** the current **partial insurance** system, is evaluated as regards its effect on (1) incentives of investment firms, (2) risk assessment and risk controlling, (3) risk diversification and allocation, (4) administrative costs, (5) competition and (6) other costs and benefits such as reputation. The Table below provides an overview.

Table 8: Comparison of full and mandatory insurance versus no insurance

Full and mandatory insurance for investment firms	Possible benefits vs. no insurance (i.e. only ICS-membership)	Possible costs vs. no insurance (i.e. only ICS-membership)
Risk diversification	…will improve only if insurers (or pools of insurers) have larger pools of investment firms with similar risks than ICS do (e.g. in Germany) …will improve if insurers choose investment firms of *similar* risk (size), e.g., big insurers pick big investment firms in Europe	
Risk assessment and risk controlling	…will improve because insurers have strong incentives to require risk-sensitive insurance premiums (most ICS currently do not)	…but insurers may have less (qualitative) expertise with the investment industry than ICS have …temporarily, lack of quantitative data for proper actuarial assessment
Investment firms' incentives	…will improve because risk-sensitive (and ex ante) charges make them internalise the consequences of risky behaviour	
Administrative costs		Insurers need to earn a profit margin (ICS not necessarily) …higher costs to investment firms due to regular provision of detailed risk-relevant data
Competition	risk-sensitive charges will improve competition	…however, fixed costs of risk assessment may drive small investment firms out of the market
Other costs and benefits		…insurers may care less about reputational capital of the investment industry or a certain sub-group of it ...insurers may fail as well, this may cause systemic risk (see chapter 6) If insurers are not willing to offer unlimited coverage per investment firm, ICS is still necessary. Further, additional problems may occur (double risk monitoring and assessment, frictions in damage compensation, free rider problems, see chapter 4.3)

Source: CEP/Bigus.

Alternatively, the *ICS itself* may buy insurance cover for damages incurred by its investment firms. With unlimited coverage such a model does not make sense, since there is no benefit in having an ICS.

As explained above, the Irish and the Canadian ICS recently bought 'excess of loss' insurance which only covers damages exceeding a specific amount (EUR 15 million in Ireland, CAD 116 million in Canada) up to another specific threshold (EUR 50 million in Ireland). Risk allocation improves if the insurer is able to diversify better larger risks. However, very large risks still stay with the ICS. The insurer's costs of risk assessment and risk monitoring (which are actually borne by the investment firms) are lower than with full

insurance since the insurer is primarily interested in information on large and/or relatively risky investment firms and the ICS has incentives to properly monitor risks. Since insurance charges will depend on ICS monitoring abilities, the ICS is likely to have better incentives, too. Still, insurance premiums are quite high.

4.3. Market and financial issues

4.3.1. Probability and attractiveness of full private insurance by investment firms

Currently, no investment firm has a private insurance policy in place offering coverage for all four events of the Basic Model. Feedback from an extensive questioning of both insurance associations and insurance undertakings across all Member States is very clear: there is very little or no willingness in the insurance industry to offer insurance to investment firms covering the four events of the Basic Model.

The main reasons for this reluctance are the following:

i) A perceived inability by insurance undertakings to assess risks at the investment firm. Insufficient available data and the lack of experience with these kinds of risk aggravate the problem.

ii) Additionally, a number of respondents point to a lack of re-insurance for such insurance policies.

iii) A number of respondents from smaller Member States argue that the domestic market would be too small for such an insurance. The relatively small number of investment firms makes the required risk diversification at every insurance undertaking offering such insurance impossible.

iv) Two respondents see a moral hazard problem for financial supervisors. They claim that the mere existence of full private insurance would cause supervisors to close down ailing investment firms more easily than without such insurance. This would make it more difficult for insurance undertakings to adequately estimate default risks.

v) A number of respondents refer to a lack of own funds on the side of insurance undertakings to offer such insurance.

If at all, taking out private insurance seems feasible only if the risk to insurance undertakings is limited by capping the insured amount. However, even when capping the insured damage at EUR 5 Million per investment firm per year, only three respondents have signalled a (low) willingness to offer insurance.[77]

<u>Conclusion 1:</u> For a variety of reasons, the willingness of insurance undertakings to offer full private insurance to investment firms covering all four events of the Basic Model is close to zero. Allowing for liability caps only slightly increases the likelihood of supply of such insurances and comes at the cost of cover falling significantly below the ICSD's standards.

From the point of view of investment firms, private insurance will be attractive only when costs for such insurance will be lower than regular contributions to the ICS. As only a minimal share of insurance undertakings responding to our questionnaire did not rule out

[77] This cap would not meet the assumptions of the Basic Model. In the past, an average compensation case dealt with by an ICS had about 430 investors claiming compensation. A cap of EUR 5 million per investment firm amounts to an average insurance cover of only EUR 11,625 per investor while the Basic Model envisages a cover of EUR 100,000 per investor.

offering full insurance, the number of responses on the potential costs of such insurance is equally limited and by no means sufficient to be statistically significant.

We conclude that full private insurance without a liability cap is most likely to be prohibitively expensive. A very small number of insurance undertakings have signalled prices which on average would be around EUR 120,000 p.a. per investment firm if a liability cap of EUR 5 Million is applied.

As shown below, the average annual contribution of investment firms to ICS - where data are available - is (in most cases and significantly) lower. Hence, on average there is no monetary incentive for investment firms to replace ICS membership by private insurance.

Table 9: Average annual contribution by investment firms to selected ICS

ICS	Average annual contribution per member in EUR
Austria (AeW)	3,000
Bulgaria	6,500
Czech Republic	110,000
Finland	1,621
Germany (EdW)	10,685
Ireland	17,250
Lithuania	1,804
Hungary	55,500
Slovakia	15,500
Anonymous 1	36,000

Source: CEP/Bigus.

It should be stressed however, that comparing the cost of insurance with ICS contributions of investment firms causes a number of methodological problems. These problems substantially diminish the explanatory value of this comparison.

i) We list and include only ICS applying a considerable degree of *ex ante* financing. Many ICS finance their compensation costs on an *ex post* basis. Although the annual contribution to these latter ICS may often be close to zero, contributions may rise steeply once a compensation case occurs.

ii) Whereas private insurance undertakings have an own interest in calculating insurance premiums in a way to cover expected losses (and make an additional profit), this is not necessarily the case for ICS. Hence, there is a risk that the average annual contributions, also of *ex ante* financing ICS, are simply too low.

Conclusion 2: Scarce data suggests that for investment firms, private insurance contracts with a liability cap of EUR 5 million covering all four events of the Basic Model on average come at a significantly higher cost than ICS membership. However, given a number of methodological problems, this fact does not allow us to draw any conclusions on the efficiency of neither private insurances nor ICS.

4.3.2. Probability and attractiveness of full private insurance by ICS

Not only investment firms might consider taking out private insurance, also ICS might do so. However, also for this case, feedback by the insurance industry to our questionnaires suggest there is very little or no willingness in the insurance industry to offer insurance to ICS covering the four events of the Basic Model. The main hurdles seem to be the national specificities every ICS is subject to and the lack of sufficient data on loss history in order to perform a proper risk assessment.

Questioning the insurance industry specifically on the willingness to offer an 'excess of loss' insurance (with a liability floor of EUR 10 Million and a liability cap of EUR 50 Million) does not significantly change this picture. Price quotes for such insurance were too rare and diverse to give a serious picture of potential costs. We know however, that the Irish ICS currently pays around EUR 300,000 on a yearly basis for its 'excess of loss' insurance.

Interestingly, in their feedback to our questionnaire, ICS in general were not of the opinion that the purchase of such 'excess of loss' insurance would significantly lower ICS contributions (excluding costs for the insurance).

There are some remarks to be made in this respect.

i) The structure of the insurance market might well have a decisive influence on the cost of 'excess of loss' insurance. The Irish ICS has purchased its insurance over Lloyd's of London which, given its market structure, might be especially well suited to take on large risks concentrated at a single insurance taker.

ii) Different liability floors and caps of the 'excess of loss' insurance might have different effects on ICS contributions. We only investigated one variant.

iii) The absence of falling ICS contributions does not allow for conclusions on the economic usefulness of 'excess of loss' contributions. Such conclusions presuppose that the ICS would have excess financial means in relation to the new relevant compensation level (in essence: the liability floor of the 'excess of loss' insurance).

Conclusion 3: There is insufficient empirical data to conclude whether taking out 'excess of loss' insurance is economically attractive to ICS.

4.4. Legal issues

In this chapter, we focus on a number of legal problems which may arise from a full and mandatory replacement of ICS-membership by private insurance contracts to be taken out by investment firms.

4.4.1. Mandatory insurance

With respect to **insurance bought by investment firms** on a mandatory basis, the mandatory character of such insurance contract might prove problematic. How such obligation would be designed is unclear today. We consider the following two possibilities:

i) An investment firm must take out private insurance covering the Basic Model in order to be allowed to offer its services (i.e. to obtain authorisation) or

ii) insurance undertakings must cover such insurance to any investment firm wishing to buy it.

On Question (i), it should be said that similar obligations already exist in a number of fields. As an example, Article 3 of the Directive 2009/103/EC relating to insurance against civil liability in respect of the use of motor vehicles and the enforcement of the obligation to insure against such liability requires Member States '*to ensure that civil liability in respect*

of the use of vehicles normally based in its territory is covered by insurance'. In general, this comes down to an obligation on the part of each car driver to ensure that valid motor liability insurance exists for the vehicle used.

Another example for mandatory insurances is the professional indemnity insurance for alternative investment fund managers.[78] In the case of insurance mediation[79] and credit agreements relating to residential property, [80] intermediaries can choose between professional indemnity insurance and a comparable guarantee against liability arising from professional negligence. Similar prescriptions also apply to certain investment firms.[81]

Furthermore, other Directives enable Member States to force '*providers whose services present a direct and particular risk to the health or safety of the recipient or a third person or to the financial security of the recipient*' as well as lawyers working in a Member State (other than that in which they obtained the qualification) to take out professional indemnity insurance.[82] A number of similar prescriptions exist in national laws.

On question (ii), in the field of motor insurance, some Member States however have gone further and have introduced obligations on the part of the insurance undertakings as well. As an example, according to the German Mandatory Vehicle Insurance Law, a private insurer who offers such insurance is legally obliged to enter into a contract with any owner of a vehicle.[83] The same holds true for Hungary.

Feedback from both the insurance industry (including associations) and insurance supervisors is very critical on imposing a legal obligation on insurance undertakings to offer a certain insurance product on a mandatory basis. With the exception of referrals to the freedom of contract, arguments brought forward are of an economic, not a legal nature. It is often argued, that forcing insurance undertakings to take on a certain risk stands in conflict with a free market and that insurance undertakings might not have the necessary capital to underlay risks.

We conclude that both, a mandatory insurance taking as well as mandatory insurance offering, restrict the freedom of contract protected by the freedom to conduct a business according to Article 16 of the Charter of Fundamental Rights of the European Union.[84] Although this does not make it legally impossible to introduce such obligations, it would require convincing arguments justifying the restricting of these fundamental rights. The point for mandatory insurance taking in the case of civil motor liability insurance can be made convincingly by referring to car accidents causing damage to third parties to an amount which cannot be covered by the average driver. Therefore, mandatory insurance taking by investment firms seems justifiable as well. In essence, already today, mandatory ICS membership for investment firms is nothing else than a form of mandatory insurance taking. However, we do not see a convincing argument for obliging insurance undertakings to offer insurance to investment firms.

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78 Article 9 (7) lit. b of the Directive 2011/61/EU on Alternative Investment Fund Managers.

79 Article 4 (3) of the Directive 2002/92/EC on insurance mediation.

80 Article 21 (1) lit. b of the Proposal COM(2011) 142 for a Directive on credit agreements relating to residential property.

81 Article 7 (1) of the Directive 2006/49/EC on the capital adequacy of investment firms and credit institutions (recast).

82 Article 23 (1) of the Directive 2006/123/EC on services in the internal market and Article 6 (3) of the Directive 1998/5/EC, to facilitate practice of the profession of lawyer on a permanent basis in a Member State other than that in which the qualification was obtained.

83 § 5 (2) German Mandatory Vehicle Insurance Law (Gesetz über die Pflichtversicherung für Fahrzeughalter).

84 European Court of Justice, Joined Cases C-90/90 and 91/90, Jean Neu and Others, paragraph 13; European Court of Justice, Case C-240/97, Kingdom of Spain, paragraph 99.

With respect to **insurance bought by ICS**, the first question arising in this context is whether the ICS is financed *ex ante* or *ex post*.[85] Austria (with the exception of AeW, see above), Germany (with the exception of EdW, see above), Italy, Latvia, Luxembourg, Sweden, Slovenia, UK, Portugal have such *ex post* financed ICS.[86] For these systems, it might be difficult to take out insurance, as these are to be paid *ex ante*. However, *ex post* ICS do not receive regular contributions by the investment firms which could be used to pay insurance premiums. Some exceptions are noteworthy. For example in Italy, the *ex post* ICS is allowed by law to buy insurance and to collect such cost among its members.[87]

In contrast, *ex ante* financed systems may have the means to buy insurance and pay premiums. However, the possibility to take out insurance is not explicitly foreseen in most of the Member States with *ex ante* systems. Hence, some *ex ante* financed ICS claim they would therefore have to consult first with their supervisors.

The Commission proposal COM(2010)371 clarifies in its Article 4a that all EU ICS should have an *ex ante* funded target level fund supplemented by *ex post* contributions if necessary. The EP's resolution lowers the target level but does not alter this general set-up.

4.4.2. General compatibility with Solvency II

Full private insurance may be taken out on the level of investment firms as well as on the level of the ICS. Although capital requirements on the side of insurance undertakings might be very high when insurance contracts are mandatory, and/or no liability cap and re-insurance would be available, we see no insurmountable legal or methodological obstacles raised by the Solvency II Framework to provide this insurance cover.

This conclusion is supported by the replies we received to our questionnaire. Only few respondents identify obstacles. One respondent sees difficulties in distinguishing between insured and uninsured events in fraud cases, some other point to the need of high capital requirements as a precautionary measure due to a lack in historic data on the occurrence and costs of liability events and when issuing mandatory insurances. Additionally, a classification of investment firm's business is needed to determine which capital requirements apply. EIOPA states that it might be necessary to re-calibrate some capital requirements with the Solvency II framework, but believes this is not a major problem.

4.4.3. State-run insurance undertaking

At least in some Member States (Italy and Poland), the establishment of an insurance undertaking governed by public law is not possible. Article 17 (1) of Directive 2009/138/EC (Solvency II) states that insurance undertakings must adopt one of the legal forms set out in Annex III of this directive. Insurance undertakings governed by public law are for most of the Member States not part of the Annex. However, according to Article 17 (2) of the Solvency II Directive, Member States may set up insurance undertakings governed by public law if these undertakings operate under the same conditions as undertakings governed by private law. The Italian Insurance Code and the Polish Insurance Activity Act for example do not provide for this option.[88] Hence, insurance undertakings governed by public law in these countries are prohibited. This prohibition does not prevent the State to own an insurance undertaking governed by private law.

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[85] The distinction between *ex ante* and *ex post* ICS is not always easy to make. Some ICS show in fact elements of both, for example by *ex ante* financing of a relatively small amount of funds which is supplemented by *ex post* payments in case of a compensation case. Also ICS which are financed *ex ante* might be required to resort to additional *ex post* contributions in case of a large payout case.

[86] SEC(2010) 845, p. 95 et seq.

[87] Article 17 of the Italian Bylaws to Article 15 of Law no. 1 of 2 January 1991.

[88] Article 14 (1) lit. a of the Italian Insurance Code, Article 5 of the Polish Insurance Activity Act.

Given certain preconditions being met, insurance supervisory bodies responding to the questionnaire in general see no legal obstacles to a state-run insurance undertaking offering a mandatory insurance. The insurance would have to comply completely with Solvency II rules. Yet, several supervisors argue that the creation of such a state insurance is rather unlikely given the current economic situation in Europe and a general priority of private instead of public economic activity. Furthermore, it has been questioned whether such a framework would be advantageous in comparison with the current ICS framework.

4.4.4. Winding down ICS

Full replacement of ICS by private insurance contracts would make ICS superfluous. The winding down of ICS could however pose some legal problems.

First, some ICS have taken out loans in order to finance compensation payments. When winding down such ICS, a way must be found for ICS members to repay the loan. Therefore, the dissolution of ICS cannot be pursued in an ad hoc manner.

Secondly, there would be a need for specific rules dealing with the question of what will happen to contributions which have been paid by investment firms to *ex ante* funded ICS. These funds must be dissolved and repaid to members. The difficulty behind these repayments is the determination of the exact amount each investment firm should receive, due to, for instance, different membership periods or open liability event proceedings.

Another obstacle for the dissolution of ICS is the question on how to deal with ongoing liability cases. As these cases usually take several years until they are closed, a transitional period for the system shift is inevitable.

4.4.5. Guaranteeing insurance coverage

In order to guarantee that private insurance contracts taken out by investment firms do in effect cover damages which materialise, it will be essential that insurance premiums are always paid in time. Otherwise, the insurance undertaking might be released from its contractual obligations to cover damage. Hence, it is clear already today, that in a context of mandatory private insurance to be taken out by investment firms, the timely and regular payment of insurance premiums must be closely monitored.[89]

Regarding the question who should carry out the task of controlling whether an investment firm has *de facto* taken out appropriate insurance cover (irrespective of what type of partial or full insurance solution has been agreed on) and has paid for it in time, most responding ICS denied a controlling role for ICS. Some stated that ICS are not capable of doing this job as expertise about the insurance business is rather limited; others doubt the standing of ICS. In addition, building up administration to deal with such a task might be expensive. In Germany, insurance undertakings play a key role. The German Regulation on Contributions to be paid to the EdW (EdWBeitrV) sets out the conditions under which a crime cover insurance taken out by an investment firm may lead to a reduction of ICS contributions. Insurance undertakings must confirm the existence of the insurance contract

[89] In Germany for instance, the insurer does not have to provide coverage if the policyholder does not pay the single payment or the first premium before an insured event occurs. This does not apply if the policyholder can prove that the non-payment is not his fault (Article 37 of the German Insurance Contract Code). If the policyholder does not pay a premium during an ongoing contract (following premium) in time, the insurer can set a payment deadline of at least two weeks. In case an insured event occurs after this deadline and before the premium is paid, the insurer does not have to provide coverage (Article 38 of the German Insurance Contract Code). In Italy, the insurance cover is suspended until the premium is paid, if the policyholder does not pay the single payment or the first premium in time. If he does not pay a following premium, the insurance cover is suspended after two weeks. After six months of non-payment, the contract is cancelled (Article 1901 of the Italian Civil Code).

as well as that it fulfils the conditions set out in the EdWBeitrV for an investment firm to be able to demand a reduction in the contribution.

Many respondents claim that national supervisory authorities, courts or auditors could be the entities responsible for performing this task. Some respondents point out that, irrespective of who carries out the 'insurance check', there should be general rules on insurance contract arrangements. In case these rules are rather detailed, the submission of a certificate might be sufficient, in case these rules are unspecific, insurance contracts should be looked at in depth.

If supervisory bodies are to be the relevant entities to ensure that all investment firms have insurance coverage at all times for those risks not covered by ICS any longer, several aspects have to be looked at. First, in case the supervisory body for insurance undertakings is not the same as the one for investment firms, it has to be determined who should be responsible for carrying out the insurance check, respectively which of the bodies is capable in doing so. This is important as the conclusion of an insurance contract could be a precondition for obtaining an investment firm licence. Second, either investment firms or their insurers should be obliged to submit documents to the supervisory body on a regular basis proving the existence of appropriate insurance coverage.

Two respondents stress the need for some kind of 'rescue package' in order to deal with the situation where an insurance undertaking goes into bankruptcy. This would cause the insured investment firm to lose its insurances coverage, and potentially its licence as an investment firm.

5. PARTIAL REPLACEMENT OF ICS BY PRIVATE INSURANCE CONTRACTS

KEY FINDINGS

- A partial replacement of investor compensation schemes (ICS) implies that an insurer covers damages from some of the four risks mentioned above (fraud, administrative malpractice, bad advice, operational errors) while the ICS covers the remaining risks.
- Partial insurance causes the following problems: (1) Double work with regard to risk assessment and risk controlling. (2) Lower quality in risk controlling because ICS and insurer may free ride on each other's efforts. (3) Frictions in the damage compensation process, e.g. if the cause of damage and hence, the responsibility, is not entirely clear.
- If these problems cannot be solved, full replacement of ICS is preferable to partial replacement, independent of whether partial insurance is voluntary or mandatory.
- A number of private insurance contracts are available on the market today covering elements similar to those of the Basic Model. Nevertheless, the insurance industry on average gives the impression to be very unwilling to offer such insurances in an ICS context. In our interpretation, neither insurance undertakings nor ICS have a particular interest in partially replacing ICS by private insurances.
- We see major legal problems when partially replacing ICS by private insurance contracts. The main problem relates to the design of the EP's Basic Model. We expect costly and lengthy legal disputes in order to clarify what exactly (fraud, malpractice, etc.) has caused a compensation claim to occur. Against this background, dividing responsibility between insurance undertakings and ICS is not advisable.

5.1. Introduction

5.1.1. Which risks are supposed to be partially insured?

With partial insurance, the insurer only covers damages from some of the four event risks mentioned above, while the ICS is still in place and covers the remaining damages. Different to the full insurance scenario, the ICS is certainly still needed. Insurers are likely to efficiently price those risks on which they have experience and sufficient data. Pecuniary loss liability insurance and crime insurance already exist.[90]

Expertise of and efficient pricing by insurance undertakings are relevant, but potential frictions in the damage compensation process are important as well. Generally speaking, only risks that are – from a legal point of view – clearly separable from others are suitable for private insurance. Whether this is the case also depends on the national legal rules. However, it is out of the scope of this study to perform a profound legal analysis on this issue covering all 27 Member States of the European Union.

[90] See Chapter 3.1.

One risk that might be fairly separable from other risks is fraud since it requires intentional behaviour of the investment firm or its employees. Damages from malpractice, operational errors or bad advice are more likely to be based on (gross) negligence. Even though the Basic Model suggested by the European Parliament does not link damage compensation to the violation of a standard of due care which defines negligent behaviour it might well play a role when courts have to decide on whether malpractice, bad advice or fraud actually is on hand.

Thus, we think that partial insurance may either cover damages from intentional behaviour (fraud) or other damages resulting from malpractice, operational errors or bad advice. The ICS will have to cover the remaining risks.

Still, frictions might occur, for instance, if an employee of an investment firm acted intentionally. The insurer and the ICS might argue whether the behaviour is more in line with fraud or malpractice/bad advice. We think, however, that frictions are less likely to occur than with other allocations of risks among insurers and ICS. Still, the European legislators may want to clearly determine responsibilities in order to avoid delayed damage compensation.

5.1.2. Many insurers or one insurer per investment firm?

There might be a scenario where insurance firm A covers fraud risk, insurer B covers the risk of administrative malpractice and insurer C the risk of bad advice. The benefit would be that the total risk is borne by many insurers such that risk-sharing might be improved. Additionally, it is more likely that different insurers have specific knowledge which might improve risk assessment and risk controlling and makes efficient pricing more likely.

However, there are three important reasons why it seems to be more efficient if one insurer covers all the risks. First, with many insurers each of them would have to assess and control risk so there is double or even triple work which would increase overall administrative costs. Second, there might be a 'free rider problem' because insurer A bears the costs of proper risk controlling alone but the other insurers B and C benefit from proper risk controlling even when the risks covered are different. Since A fully bears the costs but shares the benefits with B and C, A has weaker incentives for proper risk controlling. Of course, the same reasoning applies to insurers B and C. Overall; insurers have weaker incentives to control their risk which might actually systematically increase the investment firm's risk. Hence, this is also an issue of systemic risk.

The third argument might be the most important one even though we already mentioned it above. In case of damage, insurers A, B and C might argue whether the damage was caused by fraud, administrative malpractice or bad advice since these facts might sometimes be difficult to distinguish. The administrative costs are likely to increase with the number of insurers as is always the case when responsibilities are not or cannot be clearly defined. Probably, the investors will have to wait longer for damage compensation with a larger number of insurers. The probability of damage compensation may also decrease since courts will find it harder to unambiguously assign the damage to a specific insurance.

To sum up, it makes economic sense that the various risks of one investment firm should be covered by one insurer only. We will assume only one insurer per firm in the following analysis. We also strongly suggest supplementing the Basic Model by such a requirement.

5.2. Economic Issues

5.2.1. Voluntary partial insurance

With partial insurance, the insurer bears only some of the four risks (e.g. fraud) and the ICS the remaining risks. Additionally, the ICS bears all risks of those investment firms that do not voluntarily buy insurance. Apparently, *both* the insurers and the ICS will have to deal with each investment firms which implies double effort and some specific problems.

Investment firms will only voluntarily buy private insurance if it pays off, e.g., if there is a sufficient reduction in ICS charges which exceeds the insurance premium. In Germany, investment firms pay 15% less ICS charge with a crime cover insurance if certain conditions are met (e.g., a deductible).[91] In order to keep the economic analysis simple, let us assume that the investment firm buys fraud insurance and the ICS bears the other risks from malpractice, operational errors and bad advice.[92]

Risk allocation. Risk-sharing will be improved because ICS and insurers bear different types of risks. There might be risk-shifting, though. If ICS charges are computed by size or earnings attributes, such as gross revenues, but not by the investment firm's actual risk, large and especially profitable investment firms will perceive the ICS fees to be too high if their actual fraud risk is low. Also investment firms with a well functioning internal control system will buy fraud insurance. The premium for the insurance is supposedly relatively small compared to the savings in ICS charges. Consequently, generally low risk investment firms will buy voluntary fraud insurance but 'bad risks' will stick with the ICS.[93] This will increase the default probability in the ICS system and eventually will increase ICS fees for the remaining investment firms.

Risk assessment and risk controlling. If risk covered by the insurer and by the ICS are separable, risk evaluation and risk controlling will be rather different, either. The insurer is concerned about fraud risk, the ICS about the other risks. To some extent, there still might be double work also because some risks might be highly correlated such as fraud and bad advice. Both insurer and ICS may check the efficiency of the internal control system, executive compensation and trading limits since they affect both fraud risk but also the other risks. However, there also might be less incentive to properly asses and control the risk due to the free-rider problem mentioned above: insurer and ICS may rely on each other proper risk controlling such that both of them have distorted incentives to do a good job. This can cause a systemic risk. Even though incentives of both, the insurer and the ICS, get distorted, there might also be benefits: specialised fraud insurers might be better qualified to evaluate and control risk (even though they still may lack historical damage data and expertise on the investment industry). If the free rider problem is more severe than the potential specialisation effect, investment firms' incentives will get distorted as well, because then risk controlling will not work properly.

Risk diversification. Both, risk-shifting and weaker incentives to control risk, will impair risk diversification because correlation of (bad) risks will increase. The effect might be mitigated by specialisation effects, though.

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[91] See chapter 3.3.2.

[92] Of course, other allocations of the four risks are imaginable. However, they may imply that problems of double work, free riding and frictions in damage compensation become worse as suggested by the analysis in chapter 5.1.1.

[93] We expect an opposite effect if insurance firms offer the same contracts (charges) for high-risk and low-risk investment firms. In this case, insurance firms are likely to attract the high risks. The low risks might rather stay with the ICS. We assume insurance firms to be knowledgeable and to offer specialised contracts adjusted to the investment firm's risk.

Administrative costs might be higher for three reasons. First, at least to some extent there will be double work by private insurer and ICS. Second, it might be the case that insurer and ICS argue once damage materialises whether damage is related to fraud or other facts – at the expense of investors. If the legislator manages to separate these risks well, administrative costs will not increase too much. Third, insurers will ask for a profit margin, whereas ICS usually do not.

As with full insurance, insurers will be less concerned about **reputation effects**. An ICS might be more willing than an insurer to pay damage compensation in cases which are not clear form a legal point of view.

If the benefits of voluntary insurance outweigh its costs, we should observe that investment firms already have bought it. But this can be said of crime cover insurance only.

5.2.2. Mandatory partial insurance compared to voluntary partial insurance

With mandatory partial insurance the insurers bears only some of the four risks, e.g., fraud risk, of *all* investment firms and the ICS bears all the remaining risks. We now stress the differences compared to **voluntary** partial insurance.

With mandatory insurance, **risk allocation** is improved because there will be no risk shifting. Due to the obligation to buy insurance, the proportion of low-risk and high-risk investment firms in the ICS will not be affected. Still, there is a positive effect of risk sharing between insurance firms and ICS. This is especially useful for ICS which have only a small number of investment firms (below 30 - 50 investment firms).

Mandatory insurance will also improve **risk diversification**. Since it increases demand for insurance, insurers will write more contracts so risk can be diversified better.

The reasoning with regard to **risk assessment** and **risk controlling** remains unchanged to the voluntary partial insurance. Still, free rider problems may occur.

Administrative costs are supposedly higher than with voluntary insurance. If the insurance market is sufficiently concentrated, profit margins may increase with mandatory insurance. The main reason for higher costs are the fixed costs of insurer's risk assessment and risk controlling which all investment firms have to bear in a mandatory regime. Especially small investment firms might suffer from that – larger investment firms will benefit if smaller firms have to drop out of the market. Drop-outs will reduce **competition** between investment firms, especially in those countries where there is only a limited number of investment firms.

Administrative costs might also be higher than in the voluntary partial insurance scenario since it is more likely that insurer and ICS have to **disentangle mixed cases**, for instance, cases where it is not clear, whether damages are related to fraud risk (which is supposedly covered by the insurer) or related to bad advice (covered by the ICS).

Another **problem** occurs if insurers are only willing to offer **limited coverage** per investment firm even though they only take over some risks, e.g. only fraud risk. With large failures, the ICS might still have to bear the uncovered damages.

There are also **two benefits**. Changes in insurance premiums are **useful information** to supervisors especially when there is information on *each* investment firm, including high-risk firms. With voluntary insurance, high-risk investment firms are not likely to buy insurance. The second benefit is that **investors' trust** in the investor protection system is enhanced if they know for sure that each investment firm is obliged to have private insurance as well. This will benefit the whole industry.

5.2.3. Mandatory partial insurance compared to mandatory full insurance

In the full insurance scenario, the private insurers cover all damages related to the four risks mentioned above. Ideally, the ICS does not exist anymore. If an investment firm fails, there is only coverage by the insurer. One benefit of full replacement of ICS is that double risk evaluation/risk controlling and possible free rider problems will not occur – at least not with investment firms. [94] Hence, some incentive problems will be mitigated and administrative costs will probably be lower as well. With banks providing investment services, double work will still be done to some extent.

There might also be costs attached to the full replacement of ICS. First, it is not entirely clear that insurers have the knowledge to do better risk assessment and risk controlling than ICS do, because they are assumed to have less knowledge on the investment industry. The ICCL (2009) mentions this problem. However, insurers may learn over time, especially in a competitive environment. Second, insurers will ask for a profit margin whereas ICS usually do not. With full replacement, the profit margin will be bigger in absolute terms than with partial replacement. Third, in a full insurance scenario, there is no ICS anymore which cares about reputation concerns of the industry or the relevant group of investment firms.

5.2.4. Partial insurance concluded by the ICS

The main arguments also apply where the ICS takes out partial insurance for all its members, as is the case with AeW in Austria which has taken out insurance covering fraud at its members. With partial insurance, there is still double work by ICS and insurers, free rider problems are likely to occur, incentives by investment firms might get distorted and there might still be conflicts between ICS and insurer in mixed cases. The benefit that insurers are specialised on the specific risk covered seems to be rather negligible. From our point of view, if insurance is taken out by the ICS, full insurance is preferable to partial insurance.

5.2.5. Summary

In contrast to full insurance (with replacement of the ICS), partial insurance causes some additional problems due to the co-existence of the insurers and the ICS. First, at least to some extent, there will be double work performed by both insurers and ICS with regard to risk assessment and risk controlling. Second, ICS and insurer may also free ride on each other's efforts in controlling risks. Third, there might be frictions in the damage compensation process when responsibilities of insurer and ICS are not clearly defined. In principle, those problems exist with both the mandatory and the voluntary design of partial insurance.

One way out would be that ICS buy insurance for some risks which covers losses exceeding a certain amount. As argued above, problems of double work and free riding are then limited. Such a model would be similar to the ICCL approach except that the ICCL bought an insurance which includes all four risks mentioned above. If ICS buy only partial insurance coverage there might still be arguing on those damages that cannot be clearly assigned to fraud, bad advice etc. and thus, not clearly assigned to insurer or ICS. Consequently, if insurance is taken out by the ICS according to the ICCL approach, full insurance is preferable to partial insurance.

[94] If a bank with investment services fails, the insurer would cover the investor's damages and the deposit guarantee scheme (DGS) is supposed to pay for the depositors' damages.

5.3. Market and financial issues

In this section, we discuss the probability and attractiveness of partial private insurance by investment firms. Insurance undertakings' willingness to offer partial insurance to investment firms has been tested by means of extensive questionnaires sent to the insurance industry.

Although a number of insurance products covering fraudulent behaviour currently exist on the market, the willingness of insurances to offer partial insurance in an ICS context is very small.[95] This holds true for all variants of partial insurance. We see a very limited willingness to cover fraud (be it voluntarily or mandatory) or to cover malpractice, operational error and bad advice in an ICS context. This limited willingness – and hence also limited price quotes – make it impossible for us to compare costs and benefits of partial insurance.

Moreover, answers by ICS on the implications of such insurances for ICS-contributions charged are very heterogeneous. Whereas a number of ICS argue that private fraud insurance might well reduce ICS' contributions, a significant number of ICS see no consequences at all for contributions. The picture gets even more heterogeneous with regard to private insurance for malpractice, operation error or bad advice.

Conclusion: There exist a number of private insurance contracts on the market today covering elements similar to those of the Basic Model. Nevertheless, the insurance industry on average gives the impression to be very unwilling to offer such insurances in an ICS-context. In our interpretation, neither insurances nor ICS have a particular interest in partially replacing ICS by private insurances.

5.4. Legal issues

Many of the legal issues raised by partial substitution of ICS membership with private insurance taken out by investment firms were already dealt with in chapter 4.4. In this part of the study, we focus on some additional issues.

5.4.1. Division of responsibility between insurance undertaking and ICS

Partial private insurance will lead to the co-existence of private insurance and ICS-membership. As a general feedback to our questionnaires, the vast majority of respondents expect it to be extremely difficult to determine which element exactly (fraud, operational error, administrative malpractice or bad advice) has given rise to a compensation case. In fact, all responding ICS expect difficulties in this matter and almost all respondents from the insurance industry see a 'some' or a 'high' correlation between fraud and the other three elements of the Basic Model.

This is important, as distinguishing between these events might mean deciding on the question whether the ICS or the insurance undertaking has to compensate damages. Uncertainty in this regard may lead to delayed compensation payouts and an increase in litigation processes. Some respondents therefore pointed out that the terms and conditions of private insurance contracts should be regulated in a harmonised form ('standard policy terms') in order to ensure their overall consistency. Only when these terms are set in a uniform way, one can avoid payout problems.

In the context of partial private insurance, the division of responsibility between insurance and ICS becomes even more complex, when two or more events (e.g. fraud and operational error) together are the reason for a failure, and these events are covered by

[95] For example, at least five different insurance undertakings have offered German investment firms crime cover insurance which was recognised by EDW to reduce the ICS contributions.

different entities (insurance and ICS). As some respondents argue, in such cases, it must be clarified which event has caused the failure to occur to which extent. Accordingly, the insurance and ICS would compensate proportionally. If this is not possible, compensation might be very difficult. In any case, legal conflicts and a considerable delay in compensation seem unavoidable.

5.4.2. Exact coverage of private insurance

Some respondents to our questionnaires expect difficulties for investment firms to correctly assess the exact coverage of different private insurance contracts, given the lack of experience by investment firms in these matters. As a consequence, some argue here in favour of standard policy terms set at the EU level, too.

5.4.3. Level of ICS contribution

A small number of respondents expect legal difficulties when ICS have to set different levels of contributions: one for those members being a full ICS member and one for those members which have a partial private insurance and remain ICS member for a subset of remaining events only. The respondents claim that ICS have insufficient available data on the probability of the occurrence of the remaining single events. Hence, ICS contributions would be legally contestable.

5.4.4. Litigation risks

A considerable number of respondent raise the litigation issue already dealt with in chapter 2.1.2. Several ICS point out that the current ICSD is quite clear on when compensation is to be paid, whereas in an insurance world this might be largely dependent on the specific insurance contract concluded by the investment firm. This poses litigation risk as contracts can be interpreted differently.

We would like to stress that this risk is not related to the private insurance, but rather to the set-up of the Basic Model itself. In other words: also when fully abstaining from private insurance contracts, an ICS subject to the Basic Model would be confronted with these problems.

5.4.5. Data protection

In reply to our questionnaires, neither investment firms nor insurance undertakings and their respective associations mention concerns about data protection. From a practical point of view, introducing insurance in an ICS context does not seem to create additional issues. Whereas today, upon the occurrence of a compensation case, personal data on investors is transferred to ICS, this information would be transferred to insurance undertakings in the future.

Article 9 (1) ICSD states that ICS must take appropriate measures to inform investors about an indemnification case. In order to be able to deliver this information, it seems to be common practice today that investment firms pass the necessary data to the ICS concerned. Based on feedback by respondents to our questionnaires, we conclude that investment firms generally do not ask investors for prior consent to do so.

We refer to Article 7 lit. e of the Data Protection Directive (95/46/EG), prescribing that personal data may be processed also without consent if the processing is necessary for compliance with a legal obligation to which the controller is subject.[96] We point to the ongoing review of the existing Data Protection Directive (95/46/EC) which may cause additional changes in the future.

[96] Article 38 (2) of the Austrian Banking law (Bankwesengesetz), for instance, provides additionally for an exception from the banking secrecy.

6. SYSTEMIC RISK IN DIFFERENT SCENARIOS

KEY FINDINGS

- For three reasons, systemic risk with investment firms is considerably smaller than with (commercial) banks. First, with investment firms there is usually no maturity mismatch between short-term liabilities and illiquid/long-term assets. Second, investors have a proprietary claim; therefore they are less likely than bank depositors to make a 'run' on the financial institution. Third, investment firms do not operate (or are systemically important members of) a payment system such that an investment firm's failure is not very likely to cause spill over effects.
- Compared to banks, systemic risk in the insurance industry is *generally* lower as well, mainly for the first and third reason given above. However, insurers can cause considerable spill over effects if they engage a lot in non-core activities (e.g., derivatives trading or credit default swaps) while being highly leveraged (e.g. AIG).
- The failure of an ICS is unlikely to cause systemic effects because the level of interconnectedness is low.
- With partial or full ICS replacement, systemic risk might be higher because the level of interconnectedness is generally higher with insurance firms. Partial insurance will increase systemic risk if ICS and insurer rely on each others risk controlling and risk assessment (free rider problem).
- Unlimited coverage per investment firm will increase systemic risk as well, because the failure of a large investment firm may trigger difficulties in the insurance undertaking providing cover (which might affect its other insurance business).
- Insurance supervisors do not expect ICS replacement by private insurance contracts to increase systemic risk, as long as adequate liability caps are being used. Private insurance contracts covering total damage would considerably increase systemic risk. By and large, the same holds true for 'excess of loss' insurances purchases by ICS.
- Supervisors acknowledge the risk of coordination problems ('team problem') between insurance undertakings and ICS but do not expect it to cause a systemic risk.
- Given the nature of markets, 70% of supervisors comment positively on insurance pooling solutions. As supervisors doubt the changes of realising such pools within their Member States, cross-border cooperation might be necessary. 70% of supervisors see no increase in systemic risk caused by insurance pools.

6.1. Introduction

6.1.1. Definitions and forms of systemic risks

In the literature, there is no generally accepted definition of systemic risk yet. We follow the definition suggested by the Group of Ten: '*Systemic risk is the risk that an event will trigger a loss of economic value or confidence in a substantial segment of the financial*

system that is serious enough to have significant adverse effects on the real economy with a high probability.'[97]

This definition mentions two important characteristics of systemic risk: economic spill over effects and significant adverse effects on the real economy.[98] Spill over effects imply that the failure of one financial institution spreads to other financial institutions. There might be different sources of such 'contagion':[99]

- *Asset price contagion*: Financial institutions might be forced - e.g. in order to meet capital requirements - to sell large amounts of assets at prices which are temporarily depressed. These 'fire sales' further depress market values of assets of other institutions.
- *Counterparty contagion*: Shocks to some firms make them unable to meet commitments to counterparties which adversely affect the counterparties to default on their commitments. This might cascade through the financial market.
- *Contagion due to uncertainty and opacity of information*: Uncertainty about potential financial problems makes parties to become reluctant to trade which aggravates the frictions in the financial market.
- *Irrational contagion*: Investors and/or customers withdraw funds regardless of the question whether the financial institution is in financial distress or not.

6.1.2. Indicators of systemic risks

In order to be able to evaluate whether partial or full insurance will increase systemic risk we need to think of indicators capturing systemic risk. Cummins and Weiss distinguish between primary indicators and contributing factors.[100]

Primary indicators directly relate to potential spill over effects, like interconnectedness, size of a financial institution and lack of substitutability.[101] *Interconnectedness* refers to the degree of correlation among financial institutions, i.e. to which extent financial distress of one institution will probably increase financial distress with another institution because of the network of financial claims. The network is based on the asset and liabilities side of the balance sheet (e.g. by interbank lending), but also, e.g., by derivative transactions, off-balance sheet commitments.

Size is a proxy for interconnectedness. With increasing size of the financial institution the connections to other institutions are more significant. Contagious effects are usually stronger with bigger financial institutions, i.e. that some of them might be 'too big to fail'.

Lack of substitutability is defined as the extent to which the service of a failed institution can be provided by others. For instance, it might be difficult to quickly replace payment and settlement systems. The level of market concentration and the ease of market entry are quantitative indicators for the lack of substitutability which by itself again reflects a dimension of interconnectedness.

Contributing factors increase the likelihood or the size of spill over effects. Cummins and Weiss[102] mention (1) leverage, (2) liquidity risks and maturity mismatches, (3) complexity

[97] Group of Ten (2001) at p. 126.
[98] Cummins and Weiss (2010) at p. 9.
[99] Harrington (2009) at p. 802.
[100] Cummins and Weiss (2010).
[101] Cummins and Weiss (2010), at p. 10-14.
[102] Cummins and Weiss (2010), at p. 14-17.

and (4) government policy and regulation (for similar factors, see Billio).[103] These factors tend to increase the likelihood of financial distress and thus, the vulnerability of systemically important financial institutions.

Liquidity risk might occur, if liabilities are rather short-term and assets are long-term (as with banks) or if most assets are illiquid, that is, difficult to sell.

Financial institutions offering a wide variety of services such as banking, insurance and investment products are organisationally complex. *Geographic complexity* refers to multinational institutions, *product complexity* to new and complex financial products which might not be well understood. Each form of complexity is prone to increase the level of interconnectedness and/or impair the ability of supervising bodies to effectively monitor the financial institution.

Government policy and regulation may increase moral hazard of financial institutions, for instance, by establishing deposit guarantee schemes and insurance guarantee fund protection. Of course such devices decrease the probability of runs but they also impair the *ex ante* incentives to avoid financial distress, as for instance, by excessive risk taking.[104]

6.2. Systemic risks with investment firms, with banks and with insurance undertakings

Investment firms differ from banks in two important aspects.[105] In contrast to banks there is no maturity mismatch between short-term liabilities and illiquid or long-term assets. Investment firms should be able to liquidate most of their assets quickly and at fair market value. Unlike banks, investment firms are also required to segregate the funds of their clients. As a consequence, the client does not have a personal claim (as the depositor has against the bank) but a *proprietary* claim which is attached to a specific property. Investors are less likely to run on their investment firm because they do not need to be afraid that the investment firm liquidates *their* assets. Investment firms are also less likely to run into liquidity problems. Still, if investment firms are sufficiently large and engage in innovative and complex financial transactions (on their own account), spill over effects cannot be excluded. We were unable to find evidence that explicitly addresses systemic effects of investment firms. Overall, systemic risk is much less an issue with investment firms than with **banks**. Of course, banks engaging in both, investment services and commercial banking are more likely to potentially cause systemic risk than pure investment firms are.

As opposed to banks, **insurance firms** do not take (short-term) deposits and are not important members of payment systems as their core business.[106] Liabilities are rather long-term. Insurance premiums have to be paid on a regular basis to ensure that there is a constant operative cash flow. Unlike banks, they have no maturity mismatch which is inherent to the business model of the insurance industry.[107] However, insurers can cause spill over effects if they engage a lot in non-core activities such as credit default swaps (CDS), insuring financial products or derivatives trading.[108] In fact, the crisis of the big US insurer AIG is said to be strongly influenced by AIG providing financial products such as

[103] Billio et al. (2012).

[104] IADI (2009) at p. 7.

[105] Alexander, 2011, p. 30.

[106] Bell and Keller (2009).

[107] Since generally there is no maturity mismatch between insurance firms' liabilities and assets, procyclical and systemic effects of capital regulation (Solvency II) are less likely to occur with insurance firms than with banks.

[108] Billio et al. (2012) at p. 536.

CDS.[109] In this case, high leverage and short-term funding (e.g., by commercial papers) make systemically relevant insurers more vulnerable. But the empirical evidence suggests that systemic risk in the insurance industry is much more limited than in the banking industry.[110] However, insurers with substantial non-core activities such as derivatives trading and with high leverage and/or high liquidity risk are more likely to cause spill over effects.[111] In the past decade, the different financial sectors have become increasingly interrelated; thus it has become more likely that even non-banks may cause systemic risks.[112]

6.3. Systemic risks with no insurance, partial ICS replacement and full ICS replacement

Without insurance, systemic risks could only occur with the ICS. As argued above, both the proprietary claim of investors and the lower level of interconnectedness of investment firms make it quite unlikely that the failure of even a bigger investment firm will adversely affect other financial institutions or the real economy. The failure of Phoenix in Germany in 2005 with total damages of about EUR 260 million did not cause any systemic effects even though it was by far the biggest investment firm in the relevant ICS. If an ICS fails, investors might lose confidence in investment firms. However, it is unlikely that banks offering investment services will severely suffer from that as well.

With partial ICS replacement, the failure of a big investment firm may have adverse effects on both, the ICS and the insurer. Whether insurers are a cause for systemic effects depends on many factors such as the extent of the insurer's non-core activities (especially derivatives trading), leverage and liquidity risks. Even though there is lack of evidence, the level of interconnectedness might be higher with insurers than with ICS. Consequently, systemic risks might be higher with partial insurance than without insurance.

There is another problem which supports this claim and which relates to the 'free rider problem' mentioned above. Insurer and ICS may have impaired incentives to properly evaluate and control risk because they rely on each other. This may increase the probability of investment firms failing. The problem is that the 'free rider problem' systematically affects all investment firms in a way that correlation of risks increases. As a consequence, systemic risk within the investment firms increases as well. Whether this spreads to other financial sectors or even to the real economy is a question which warrants further empirical investigation.

With full ICS replacement, the insurer suffers more from a failure of a big investment firm. In case of unlimited liability, the insurer may become financially distressed and – depending on the level of interconnectedness – may adversely affect other financial institutions or sectors. However, with limited liability, the ICS might have to cover damages beyond insurers' limited coverage. In this case, the free rider problem remains.

Any form of insurance naturally introduces moral hazard.[113] Investment firms might be more willing to undertake risky investments or to under-invest in effective risk management.[114] Even ICS may be less motivated to properly monitor the investment firms. Moral hazard increases the risk of failure systematically and hence, is a source of systemic risk. In order to mitigate moral hazard, insurers, investment firms and ICS *need to have*

[109] Harrington (2009).
[110] Cummins and Weiss (2010), Muns and Bijlsma (2011), Billio et al. (2012).
[111] Cummins and Weiss (2010).
[112] Billio et al. (2012).
[113] IADI (2009), p. 7.
[114] Bigus and Prigge (2005).

proper incentives to decrease the probability and the size of damages, e.g. investment firms should pay risk-sensitive charges to insurers (and/or preferably to the ICS as well).

Further, it is worth to mention a possible trade-off between better risk diversification and higher systemic risk. If an insurer takes over investment firms' risk from several ICS, risk diversification will certainly improve. However, if the insurer faces financial distress, systemic effects are more likely to occur than with the smaller ICS.

So far, we focused on investment firms. With banks engaging in investment services (and deposit and loan business), the picture is different. Banks are more likely than insurers to transmit shocks to other financial institutions and even to the real economy. It seems to be doubtful that partial or full insurance according to the Basic Model will significantly decrease systemic risks of banks; rather, the insurance sector might be negatively affected as well.

6.4. Supervisors' assessment

In order to be able to measure systemic risk in a more applied matter, all national insurance supervisors as well as EIOPA were asked to give an assessment of the systemic consequences of private insurance taking by investment firms and/or ICS. We also asked supervisors on pooling solutions and state-run insurance undertakings.

6.4.1. Insurance and systemic risk

A constant and large majority of insurance supervisors is of the opinion that introducing private insurance as a (partial) substitute to ICS *per se* does not change systemic risk. This assessment is valid for full mandatory private insurance, for full voluntary private insurance and for voluntary partial private insurance. A constant and small minority of supervisors sees a small increase in systemic risk as a consequence of the inability of insurance undertakings to calculate premiums appropriately or if a race to the bottom in premiums occurs as a consequence of competition in a market with few customers. One supervisor sees a strong increase in systemic risk, without giving reasons for its assessment.

This rather positive assessment seems however to be very dependent on the amount of compensation that insurance undertakings are willing to take on. The feedback above is based on a scenario where insurance undertakings compensate at most EUR 20 million per investment firm per year. Moving closer to the EP's ideas and considering unlimited cover (i.e. no liability cap) supervisors' assessment on systemic risk changes. About one half of the supervisors see considerable systemic risk when offering unlimited cover. Within that group, almost all supervisors even expect a strong risk increase. The other half of supervisors see no systemic risk increase when considering insurance contracts without liability cap. Some of those supervisors however make this assessment dependent on the existence of adequate re-insurance.

6.4.2. Team (coordination) problem

We have questioned insurance supervisors as to whether they expect 'team problems' under mandatory as well as voluntary full private insurance and under voluntary partial private insurance. A 'team problem' occurs when insurance undertakings and/or ICS do not sufficiently monitor risk at an investment firm, but rely on each other's risk monitoring instead.

By and large, although quite some supervisors acknowledge that team problems may occur, a large majority of supervisors sees no increase in systemic risk because of team problems. This majority grows even further when considering voluntary and partial insurance.

6.4.3. Insurance taken out by ICS

The large majority of supervisors does not see a systemic risk when ICS purchase private insurance. This assessment holds especially true when insurance cover is limited (in our example: 'liability cap' of EUR 50 million per ICS per year in combination with a cap of EUR 20 million per investment firm).

Considering insurance with a liability cap exclusively on the level of the investment firm (and not on the level of the ICS), the large majority of supervisors still sees no significant increase in systemic risk. However, a number of supervisors argue that such potentially high sums are not insurable on their national markets, but that pooled (cross-border) insurance may be a solution.

Asking specifically about systemic risk connected with an 'excess of loss' insurance as purchased by the Irish ICS, a majority of supervisors sees no effects on systemic risk; one even sees a significant decrease in systemic risk. Within the minority of supervisors seeing risk increases, some argue that national insurance markets are too small to offer such insurance.

6.4.4. Suboptimal risk diversification and pooling solutions

Given that some Member States show a small number of investment firms and potentially a large number of insurance undertakings, we see a theoretical risk that insurance will lead to suboptimal risk diversification (in fact, risk concentration). The majority of supervisors (65%) do not expect this risk to materialise. They refer to re-insurance which may mitigate these problems. One supervisor stresses that not the number of investment firms is relevant but the investment volumes. The vast majority of supervisors (85%) believe that the Solvency-II rules are able to cope with this risk concentration problem in an appropriate way.

75% of supervisors believe that insurance pools are an adequate way to bypass suboptimal risk diversification problems. However, at the same time 30% of all supervisors have serious doubts that such pools are feasible in their national markets, as some of these markets might be too small to form such pools. About 70% of supervisors see no systemic danger in pursuing such insurance pools. However, as a majority of 70% of respondents believe that insurance undertakings established in their Member State will engage in cross-border insurance activities with investment firms or ICS located in other Member States, the issue of limited pools in national markets might be solvable by designing cross-border insurance pools.

6.4.5. State-run insurance undertakings

Considering a scenario of mandatory insurance, a small majority of insurance supervisors do not expect problems concerning a lack of experience of state-run insurance offering such mandatory insurance. They estimate the risk for a state-run insurer to get the assessment of an investment firm's risk wrong to be similar to a private insurance undertaking assessing this risk. Two supervisors stress the risk of possible political influence, both on the level of premiums and on the offering of insurances to investment firms which would not be able to resort to insurance with private insurance undertakings.

Given the specialist nature of a state-insurance undertaking offering mandatory insurance, 45% of supervisors expect a problematic degree of risk diversification of such an insurance undertaking. However, only 35% of supervisors expect a worsening of systemic risk by introducing state-run insurance. A number of supervisors mention the likelihood of subsidies being paid to state-run insurance. One supervisor points to the fact that artificially low insurance premiums (given possible subsidies) might impair incentives on

the side of the investment firms which might not spend as much effort as they should do to avoid fraud, etc. Without giving a detailed explanation, 45% of supervisors point out a similar concern.

7. TRANSPARENCY ISSUES

KEY FINDINGS

- Investment firms should not be required to inform (potential) clients about the terms of the insurance contracts (premium, deductible, etc.) or about the ICS contributions because insurance contracts and investment firms (risk exposure) differ so much that they are comparable only to a limited extent. This will rather cause confusion, especially with partial insurance. Moreover, (small) investors are assumed to lack the expertise or the interest to correctly use those pieces of information.
- It does not seem feasible to break down such charges (ICS and/or insurance) to be expressed in a fraction of the investment firms overall cost (due to e.g. changing number of potential/existing clients, changing risk profile and changing amount of assets, *ex post* additional payments etc.).
- The ICS and supervisory agencies should have access to the terms of the insurance contracts and/or ICS charges since changes in the terms may indicate considerable changes in the investment firm's risk at an early stage.

7.1. Transparency of insurance premiums and/or ICS contributions towards investors?

Should investment firms inform investors on the insurance premium (and on deductibles) and their changes? This piece of information would be valuable only if the risks insured are very similar across investment firms. Obviously, with partial insurance this is unlikely to happen, since the risks insured, risk exposure and contract details (such as deductibles) will or might differ among investment firms. Even with mandatory full insurance, premiums are not comparable because larger investment firms are more likely to pay a higher insurance premium even though risks might be comparable.

But even if risks were comparable, (small) investors are often said to lack the expertise and/or the interest to correctly assess the soundness of investment firms.[115] To sum up, insurance premiums and changes of it are comparable *across* firms only to a limited extent; therefore investors are unlikely to deduce the investment firm's risk out of such information.

If insurance premiums were to indicate with sufficient precision the investment firm's risk, disclosure would probably have a benefit since investment firms have an incentive to limit risks in the first place, otherwise investors would switch to a competitor. It is obvious that this scenario would not be realisable with voluntary and/or partial insurance because insurance contracts are unlikely to be comparable.

The same arguments hold for the disclosure of ICS contributions. These will not only differ with the investment firm's risk but also with its size making ICS charges comparable only to a limited extent.

[115] Lamandini (2011) at p. 10. Also, during the financial crisis, it turned out that even professional investors were unable to correctly foresee and assess the risks related to financial institutions.

There might be a risk of disclosure. For instance, in the case of commercial banks, it is often argued that information on the bank's financial distress may erode confidence and might even exacerbate distress.[116] Thus, a bank run can be triggered and entail systemic effects. This argument does not really apply to (pure) investment firms since investors have a proprietary claim and a run is less likely to occur. Additionally, systemic risks are less pronounced if even existent.

Both the benefits and the costs[117] of disclosing (changes in) insurance premiums (and deductibles) and ICS contributions might be very limited. The expected net benefit does not justify a mandatory duty of disclosing details on the insurance contract. Therefore, firms should not be obliged to inform their clients about these costs, but be able to do so on a voluntary basis.

Disclosure not of the overall payment to the ICS and/or the insurance undertaking(s) but of the cost expressed in a fraction to each (potential) transaction of (potential) clients seems even more difficult. While the costs might be easily determined, the number of transactions and their amount cannot be determined in advance in a way which makes sense. Furthermore, even cost may change afterwards, e.g. when the ICS has to ask for *ex post* contributions due to a large payout. Costs may also change because they are supposed to vary with the risk profile and the size of the investment firm of which both may change over time.

7.2. Transparency towards ICS and supervisory agencies

Even though not addressed by the EP proposal, the ICS and supervisory agencies may well use information on a change in insurance premiums and deductibles because it possibly indicates at an early stage a change in the investment firm's riskiness.[118] Changes in ICS contributions might have a similar information value if they are strongly related to the firm's risk. ICS and supervisory agencies are likely to use this information sensibly and confidentially in order not to shake confidence in the investment firm immediately. ICS and supervisory agencies probably still have time to smoothly fix a potential problem – to the benefit of the whole industry. Since there are almost no costs attached to get this piece of information, but the benefits are relevant, ICS and supervisory agencies should get informed on the details of the insurance contracts but also on changes (such as change in premiums and deductibles).

It is obvious that information on (changes in) insurance premiums is more informative the more homogeneous (and the better comparable) are the investment firm's insurance contracts. This is possible rather with mandatory full insurance than with voluntary partial insurance.

If the ICS takes out insurance for its investment firms, the details of the insurance contract relate to the *pool* of investment firms. Supervisory agencies cannot draw any conclusions regarding single investment firms' risk. Thus, disclosure would not be helpful.

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[116] IADI, 2009, p. 23.

[117] Cost is defined in this scenario as retrieving the information on insurance premiums and/or ICS contributions, making this information available to (potential and existing) clients, and possible disclosure risk, see description above.

[118] See Bigus and Leyens (2008) at p. 125f. As an example, the German Regulation on Contributions to be paid to the EdW (§ 2d (3) EdWBeitrV) prescribes that insurance undertakings will notify changes of the crime insurance cover premia of single investment firms to the German ICS. However, the investment firm must agree with this procedure.

7.3. Effects on competition

Disclosure towards investors will improve competition only if two conditions are met. First, details of the insurance contract must be comparable such that investors can learn something meaningful from the information disclosed. As argued above, this is possible rather with mandatory (full) insurance than with voluntary (full or partial) insurance. Even with mandatory insurance, contract details will not fully be comparable since premiums and deductibles will not only depend on the investment firm's risk exposure. Second, even if contract terms are comparable to some extent, investors need to have sufficient skills and time to interpret the disclosed information correctly. Especially with retail investors, this assumption is often challenged.

Only with voluntary insurance there might be a positive effect on competition because the less risky investment firms are more likely to get (affordable) insurance. Investors will rather want to do business with investment firms that voluntarily bought insurance. It will be less expensive for less risky investment firms to buy insurance.

If the ICS takes out insurance, the effects of disclosure on competition between investment firms are likely to be negligible. Since the terms of the contract relate to the risk of the ICS pool of investment firms, investors will be unable to draw conclusions on the individual investment firm. However, if there are competing ICS in the market, a voluntary insurance may increase investor's confidence in the ICS.

8. RECOMMENDATIONS

Building on the results of the previous chapters, we would suggest the following recommendations.

8.1. Basic Model

The introduction of the four 'events' (fraud, operational error, administrative malpractice and bad advice) in the Basic Model adds an additional layer of complexity to the question whether ICS (or insurance undertakings) should compensate (or offer coverage) in a specific case.

We recommend more clarity in the Basic Model.

First, the **events** leading to compensation **should be described in more detail**. It would make insurance more likely, if the events' definition would be adjusted to better fit already existing insurance products like crime cover or pecuniary loss insurance.

Second, **burden of proof should be clearly allocated**. It should be clear whether the investor must prove the existence of e.g. fraud, or if the burden of proof is reversed and the investment firm has to prove the opposite. Without these clarifications, we expect insurance undertakings to have substantial uncertainties in adequately assessing risk, leading to a general reluctance on the side of insurance undertakings to offer (partial or full) insurance to investment firms.

We also recommend to ensure that the **wording of the Basic Model** reflects legislators' intentions. The current wording (Article 2, paragraph 2a subparagraph 1 as amended by the EP) may lead to *diminished* ICS protection for investors in the future. In our opinion, without changes to the wording of the Basic Model, classical cases of 'bad advice' will not be covered by ICS. In that case, we recommend excluding bad advice from the Basic Model.

8.2. Partial insurance taken out by investment firms

We do not recommend a partial insurance of single events of the Basic Model (i.e. fraud, operational error, administrative malpractice or bad advice). In our opinion, partial replacement of ICS does not seem to be a viable option. It might impair incentives of insurers, ICS and investment firms. We expect major legal problems concerning the allocation of responsibility between ICS and insurance undertakings. This will delay compensation and increase litigation costs.

8.3. Full insurance taken out by investment firms

Although full and mandatory insurance does come with some potential advantages, we are cautious to give a general recommendation for introducing such insurance. It might make sense in EU Member States where ICS suffer from poor risk diversification.

In our opinion, on one hand full and mandatory replacement of the ICS may improve risk assessment and risk controlling and the incentives of investment firms. On the other hand, it is likely to increase the costs of investor compensation, especially because insurance undertakings need data for actuarial risk assessments. Legal and practical difficulties arise, but seem manageable.

Given the responses to our questionnaires, insurance undertakings are currently unlikely to offer full insurance even if coverage per investment firm would be limited. The main reasons mentioned are insufficient available data for proper risk assessment, the lack of re-

insurance and the small size of the national markets. Consequently, the insurance premiums mentioned in the questionnaires are much higher than current ICS contributions. This, however, does not indicate that ICS contributions adequately price the risks of investment firms.

We doubt that insurance undertakings would be willing to offer full insurance with unlimited coverage in the medium term, as there seems to be a lack of re-insurance. Consequently, an ICS might still be necessary to cover for the failure of large investment firms (assuming the ICS is able to do so itself).We do not expect that total costs of investor compensation will then decrease.

8.4. 'Excess of loss' insurance taken out by ICS

From our point of view, the only viable insurance option might be that ICS themselves take out 'excess of loss' insurance for their investment firms defining an individual liability floor and liability cap. Such a solution might improve risk sharing without severely distorting the incentives of ICS and insurance undertaking. However, it is unlikely that an insurance solution of this kind could cover in full the failure of large investment firms.

Unfortunately, even though there are examples of such an insurance (Canada, Ireland), most ICS did not decide to buy insurance even though they already have the option to do so in many EU Member States. This might be due to the scarcity of data on damage compensation and a lack of supply of such insurances, given that insurance pools might be necessary to offer such insurance.

We recommend to allow (but not to oblige) ICS in all EU Member States to purchase 'excess of loss' insurance. Given a longer time series on damage compensation cases, in a few years time there should be a new assessment regarding the introduction of mandatory 'excess of loss' insurance.

8.5. Systemic risk and transparency

Neither full nor partial insurance nor 'excess of loss' insurance are considered to cause systemic risks as long as there is no unlimited coverage per investment firm without adequate re-insurance. Hence, when there is political consensus that insurance contracts are to play a role in an ICS context, we recommend contemplating carefully a liability cap on the investment firm level, taking into account that this might lower investor protection.

Transparency on insurance or ICS charges towards investors does not seem to be useful. For instance, insurance charges depend on the investment firm's riskiness, but also on other factors such as its size and the risks covered. Consequently, insurance and ICS charges are comparable only to a limited extent and thus, investment firms should not be required to disclose them.

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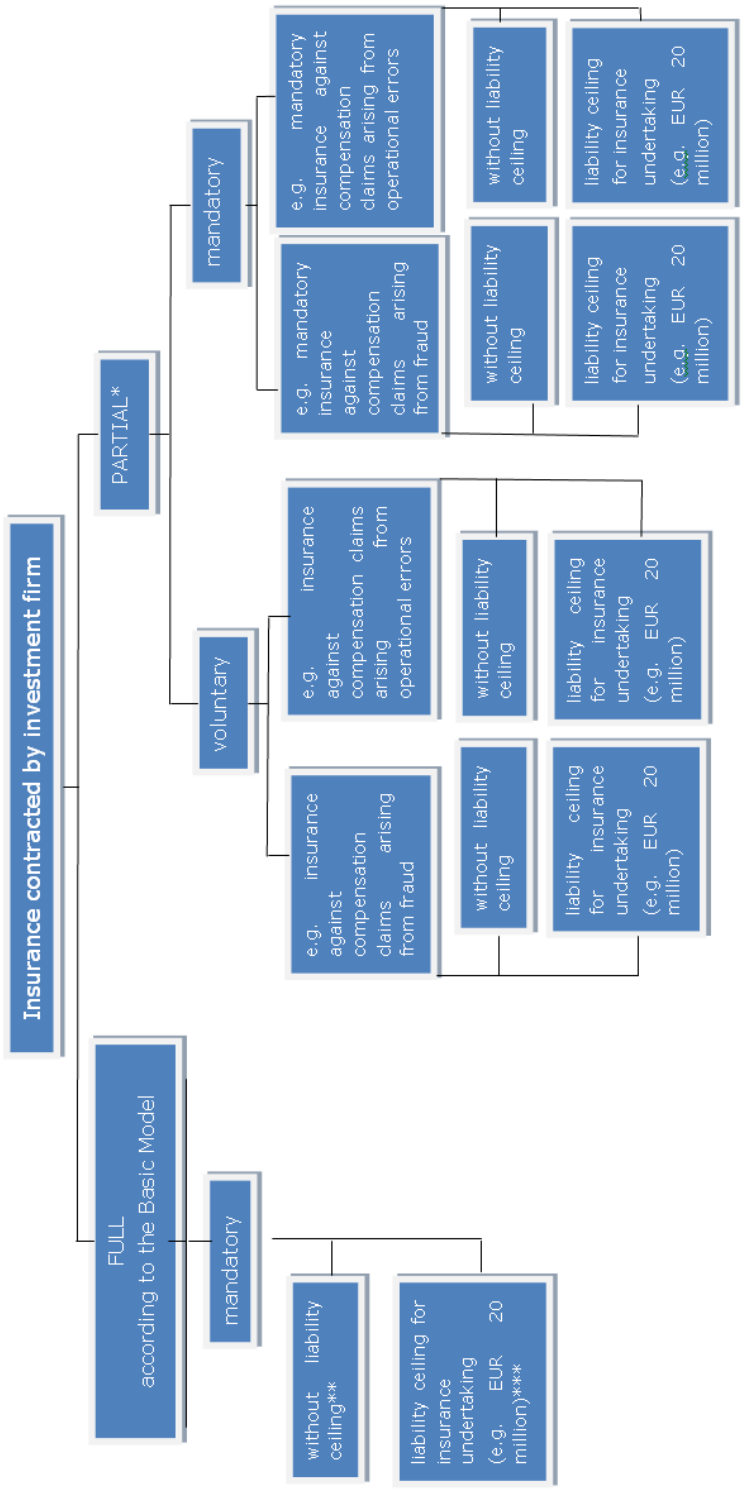
ANNEX 1: GRAPHIC OVERVIEW OF PRIVATE INSURANCE WITHIN ICS

Figure 2: Private insurance contracts taken out by investment firms within the Basic Model



* The insurance contract covers some of the four 'events' of the Basic Model. Compensation claims arising from the remaining 'events' are covered by the investor compensation scheme. Hence: The investment firm remains a paying member of the investment compensation scheme.
** Investment firms in this scenario are no longer member of the ICS. Investor compensation schemes might cease to exist.
*** Insurance undertakings might not be willing to offer insurance contracts with an unlimited cover for all damages. In such cases of 'liability caps', the investor compensation scheme might cover the remaining risk, financed by contributions by investment firms.

Figure 3: Full replacement of investor compensation schemes by private insurance contracts

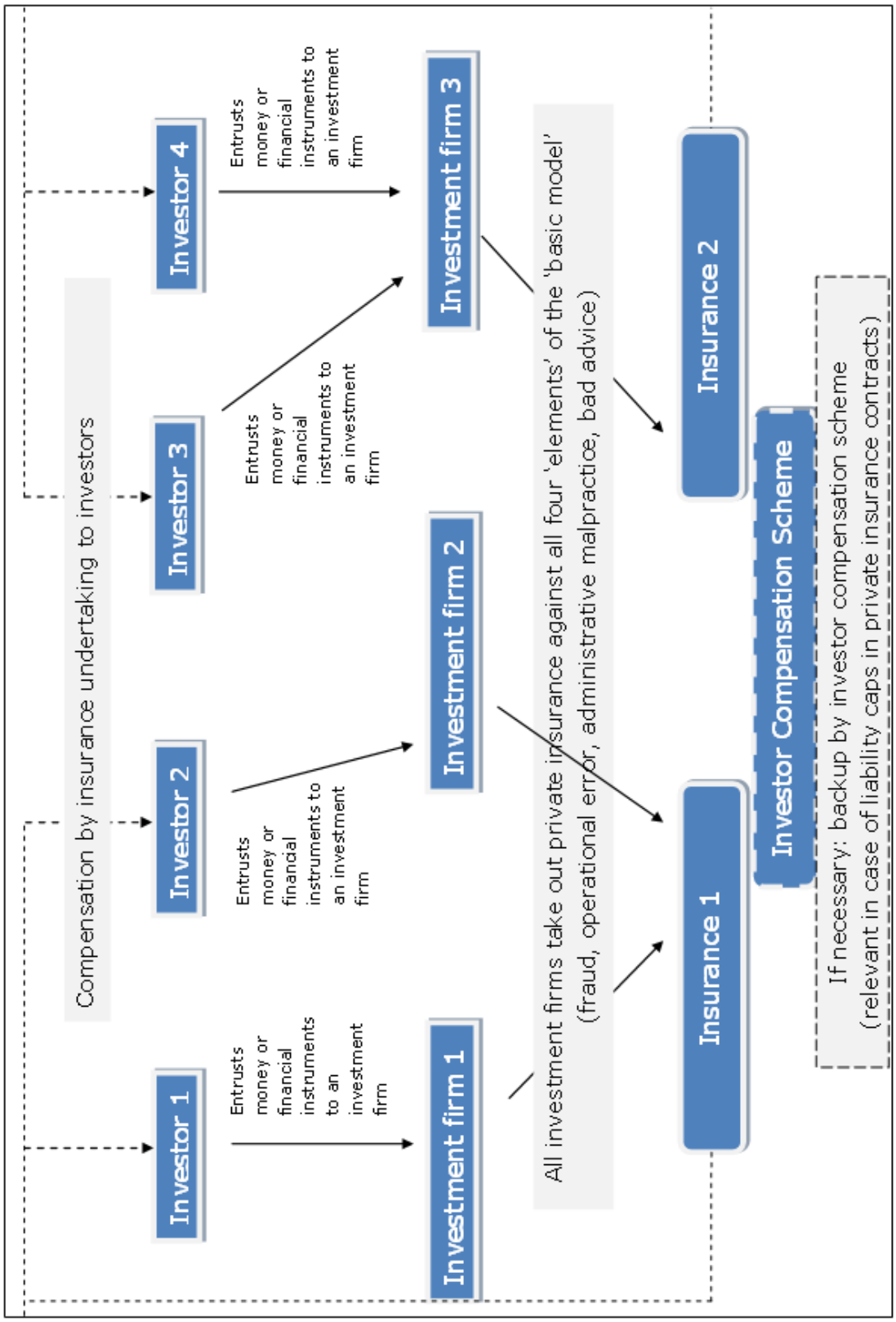
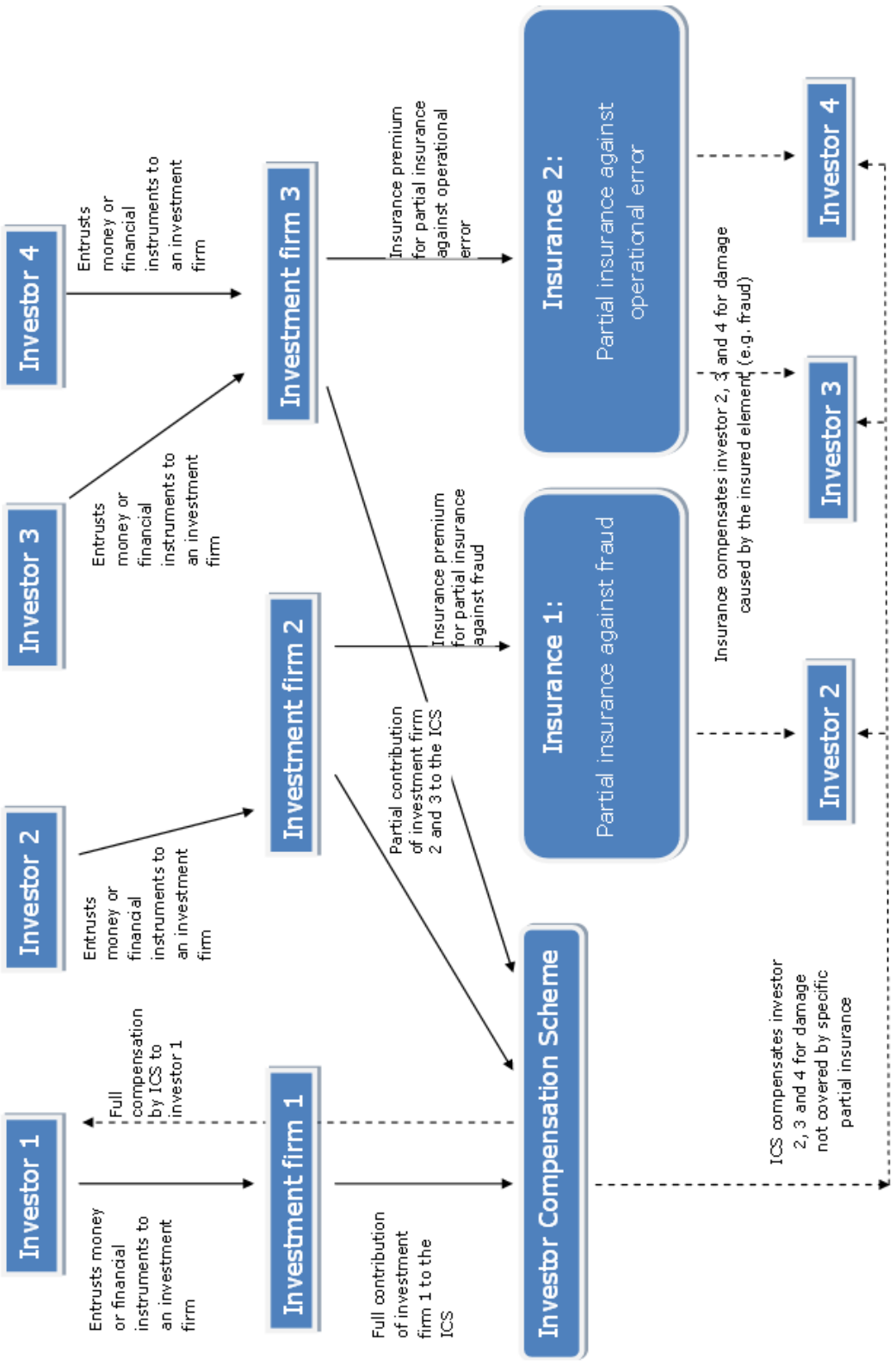


Figure 4: Partial voluntary replacement of investor compensation schemes by private insurance contracts



ANNEX 2: QUESTIONNAIRES

This annex displays the general introduction to the questionnaires as well as the annex. The different questions for each group of entities follow.

a) Questionnaire to insurance associations and insurance undertakings
b) Questionnaire to insurance supervisors
c) Questionnaire to ICS
d) Questionnaire to investment firm associations and investment firms

General Introduction to Questionnaires

A. AIM AND DESIGN OF THIS QUESTIONNAIRE

The aim of this questionnaire is to gather input in order to answer the following question which was discussed in the European Parliament:

Can coverage of clients of investment firms by Investor Compensation Schemes be replaced by coverage through private insurance policies taken out by investment firms?

The design of this questionnaire consists of the following. After a Background on the topic (Section B), we

- define a **'reference insurance'** contract and question you on that model (Section C).
- request your feedback on **changes** to that reference insurance contract (Section D)
- request your feedback on some **additional points** (Section E)
- request your feedback on a number of **legal and other questions** (Section F and G).

B. BACKGROUND

In the European Union, Investor Compensation Schemes (ICSs) cover for an investment firm's inability to repay money or to return assets to investors (Directive 97/9/EC). All 27 European Member States must have at least one ICS. **Most ICSs are financed by regular financial contributions of investment firms.**

The European Commission proposed to change these rules. The European Parliament, in its resolution of 5 July 2011,[119] voted in favour of the following set-up:

- Investor Compensation Scheme coverage of individual damage up to EUR 100,000 for each investor per investment firm (today: EUR 20,000).
- Investor Compensation Scheme provision of coverage if an investment firm is not able to re- pay money or to return assets **and** this being a consequence of one of the following events:
  - fraud,
  - administrative malpractice,
  - operational error, or
  - bad advice regarding conduct of business obligations when providing investment services to clients.
- Investor Compensation Schemes do not cover customers of UCITS (i.e. Undertakings for Collective Investment in Transferable Securities; no change with current legal situation).

Note: This resolution of the European Parliament does not mean that European law was changed since no agreement between the European Parliament and the Council of the European Union has been reached yet.

[119] http://www.europarl.europa.eu/sides/getDoc.do?type=TA&reference=P7-TA-2011-0313&language=EN&ring=A7-2011-0167.

C. 'REFERENCE INSURANCE' CONTRACT

Please consider the following 'reference insurance' contract:

REFERENCE INSURANCE CONTRACT

- The reference insurance contract is concluded by an investment firm.
- The investment firm has the licence to temporarily hold investors' securities and to trade them on their own account, but is not a bank.
- The reference insurance covers individual damage up to EUR 100,000 for each investor per investment firm per case.
- The reference insurance provides coverage if an investment firm is not able to repay money or to return assets **and** this being a consequence of one of the following 'four events':
    1. fraud (provided intentional conduct),
    2. administrative malpractice,
    3. operational error, or
    4. bad advice regarding conduct of business obligations when providing investment services to clients.[120]
- Investment firms are obliged by law to conclude this reference insurance contract with an insurance company. The insurances replace the Investor Compensation Schemes, which do not longer exist.
- In order to get damage compensation, an investor only has to prove that his/her claim against the investment firm exists.
- The reference insurance does not cover UCITS-clients of investment firms.

[120] *Please note: Damages caused by bad advice are not per se covered by the reference insurance. Coverage only applies when the investment firm fails to repay money or return assets as a consequence of bad advice.*

Appendix: Number of (investment) firms, number of firm failures, highest total and average payout for a failure in EU countries.

Note: In the past, an average compensation case dealt with by a national ICS had about 430 investors claiming compensation. 76% of those claims concerned amounts under EUR 20,000.[121]

	Number of firms (2003)	Number of failures 1999-2009	Highest total payout for a failure 1999-2009 in EUR mio.	Average payout per failure 1999-2003 in EUR mio.	Number of firms (2003)
Austria (AeW)	72	1	Current estimate: 11	11	72
Belgium	138	1	2.6	2.6	138
Bulgaria	n.a.	0 (2004-2009)	0 (2004-2009)	0 (2004-2009)	n.a.
Cyprus	28	0	0	0	28
Czech Rep.	70	15	56	n.a.	70
Denmark	220	1	1.6	1.6	220
Estonia	18	0	0	0	18
Finland	376	0	0	0	376
France	374	0 (1999-2003)	data after 2004 not available	n.a.	374
Germany-EdW	776	18	Current estimate: 259	0.2	776
Greece	130	9	2.2	n.a.	130
Hungary	58	13 (1999-2003)	n.a.	1.3 (1999-2003)	58
Ireland	3,590	3	Expected to be less than 8.5	about 3.2	3,590
Italy	961	15	5.7	0.8	961
Latvia	26	0	-	-	26
Lithuania	32	1	0.06	0.06	32
Luxemburg	218	0	0	0	218
Malta	44	0	0	0	44
Netherlands-ICS	216	6	until 2009: 0.1	0.09	216
Poland	39	1	7.6	7.6	39
Portugal	76	0	0	0	76
Romania	n.a.	0 (2004-2009)	0 (2004-2009)	0 (2004-2009)	n.a.
Slovakia	40	0	0	0	40
Slovenia	29	0	0	0	29
Spain-FOGAIN	127	5	31.8	4.2	127
Sweden	208	1	n.a.	n.a.	208
United Kingdom	7,706 (2004)	1,608 (1999-2003)	23 (1999-2003)	0.35 (2000-2003)	7,706 (2004)

Sources: Oxera (2005), p. 20-21, 41, 79, 125, 130. European Commission (2010), p.106-108, for Austria and Germany: www.aew.at and www.e-d-w.de.

Notes: n.a.: not available. The schemes in Belgium, Denmark, Estonia, Finland, France, Greece, Hungary, Italy, Lithuania, Luxemburg, Malta, Poland, Portugal, Slovakia, Sweden, United Kingdom include both investment firms and banks. The other schemes address investment firms only (unclear in Bulgaria and Romania). 3,360 of the Irish member firms are financial advisors. They are required by national law to be a member of the ICS. By EU Law they are not required to do so. In the UK, the same applies to 3856 firms. In the UK scheme most cases relate to bad advice, 'only 1-2% are due to losses resulting from embezzlement or theft of client assets' (Oxera, 2005, p. 40).

[121] Source: Oxera 2005, pp. 41 and 111, own calculations.

A. Questionnaire to Insurance Associations and Insurance Undertakings

1. Please provide for different liability scenarios:

a) an estimate how likely you are to offer this reference insurance contract to investment firms
b) an estimate of the insurance premium per year per investment firm

The probability ranges are:

- 0% (impossible)
- >0%-<20% (very unlikely)
- 0-<40% (unlikely)
- 40-<60% (reasonable)
- 60-<80% (likely)
- 80-<100% (very likely)
- 100% (we already offer such an insurance or plan to do so in the near future).

In providing your estimates, please consider a "typical average investment firm". This firm would manage assets worth EUR 245 million.[122] In addition, assume the firm has a ratio of equity to total assets of 25%.

	Unlimited liability per firm	Liability cap: EUR 5 million per investment firm/case	Liability cap: EUR 20 million per investment firm/case	Liability cap: EUR ... mio. per investment firm/case[123]
Probability (range)	0%	0%	0%	0%
Estimated insurance premium (range) as % of assets managed by the investment firm	<0,1%	<0,1%	<0,1%	<0,1%

2. If you are willing to offer insurance contracts only with a limited liability what would be the maximum liability cap acceptable to you (considering the characteristics of the reference insurance)?

Insurance against investors' damages due to	**Maximum liability cap acceptable**
Full Insurance ('Four in one')	... million EUR
Fraud (alone)	... million EUR
Administrative malpractice (alone)	... million EUR
Operational errors (alone)	... million EUR
Bad advice (alone)[124]	... million EUR
Administrative malpractice and operational errors	... million EUR

D. SPECIFIC CHANGES TO THE 'REFERENCE INSURANCE' CONTRACT

Assume now that the **liability cap for the full and mandatory reference insurance contract is EUR 20 million** per investment firm per case. We now consider one modification of the reference insurance contract at a time.

3. Please provide an estimate of your probability to offer such insurance contracts

and

4. Please give an estimate of how much the price of these contracts would differ from the price for the 'reference insurance' contract with a liability cap of EUR 20 million.

(In order to help you with the pricing, the appendix shows a table with some country-specific information: number of investment firms, number of failures, highest total payout for a failure.)

[122] Assumptions: Excluding financial advisors in UK and Ireland, 9760 investment firms are member of a national investment compensation scheme and manage EUR 2,400 billion in total. (Source: EFAMA and Oxera (2005), own calculations.)

[123] If necessary, respondents may define a different liability cap and provide an estimate for the probability and insurance premium.

[124] *Please note: Damages caused by bad advice are not per se covered by the reference insurance. Coverage only applies when the investment firm as a consequence of bad advice fails to repay money or return assets.*

LIABILITY CAP: EUR 20 MIO PER INVESTMENT FIRM PER CASE

Modification of reference insurance	***Probability of offering an insurance***	***Change in insurance premium compared to reference insurance contract***
1. Full insurance but the private insurance is **not mandatory to investment firms; meaning that the ICS may still exist**	... %	Premium per investment firm decreases by more than 50%
2. Full and mandatory insurance but the investment firm **does not trade securities** on its own account	... %	Premium per investment firm decreases by more than 50%
3. Full and mandatory insurance but the investment **firm neither trades securities** on its own account **nor does it have a licence to hold investors securities**	... %	Premium per investment firm decreases by more than 50%
4. Full and mandatory insurance but it is a **bank engaging in the investment services**[125]	... %	Premium per investment firm decreases by more than 50%
5. No full insurance **only fraud** risk is covered on a mandatory basis (ICS covers other risks)	... %	Premium per investment firm decreases by more than 50%
6. No full insurance **only** negligence with **malpractice, operational error and bad advice** is covered on a mandatory basis (ICS covers other risks)	... %	Premium per investment firm decreases by more than 50%
7. Full and mandatory insurance, investment firm **manages assets of EUR 1 billion.**	... %	Premium per investment firm decreases by more than 50%
8. Full and mandatory insurance, investment firm has an equity ratio of 10%.8. Full and mandatory insurance, investment firm has an **equity ratio of 10%.**	... %	Premium per investment firm decreases by more than 50%
9. Full and mandatory insurance but **one (1)** insurance company offers the **insurance contract to the national ICS** for all its members. Assume **200 ICS- members (investment firms)**. Liability cap remains at EUR 20 million per ICS-Member per case and EUR 50 million per ICS per year	... %	Premium per investment firm decreases by more than 50%
10. Full and mandatory insurance but **one (1)** insurance company offers the **insurance to the national ICS** for all its members. Assume **700 ICS-members**. Liability cap remains at EUR 20 million per ICS-Member per case and EUR 50 million per ICS per year	... %	Premium per investment firm decreases by more than 50%
11. One (1) insurance company offers a full and mandatory insurance contract to the national ICS for all its **200 members**, but **only for ICS- damages in excess of EUR 10 million per year**, liability cap: EUR 50 million per year	... %	Premium per investment firm decreases by more than 50%
12. How likely is it for you as an insurance company to **offer** (parts of) the reference **insurance in more than one EU Member State?**	... %	
13. How likely are you to **participate in a pool-solution**; i.e.: several insurance companies offer cover together.	... %	

E. ADDITIONAL INFORMATION

5. Please indicate which risks might correlate from your point of view.

	Risks do not correlate	Some correlation of risks	High correlation of risks
Fraud and administrative malpractice			
Fraud and operational error			
Fraud and bad advice			
Operational error and administrative malpractice			
Operational error and bad advice			
Administrative malpractice and bad advice			

[125] Investment Services might be offered by (1) investment firms or by (2) commercial banks.

6. Please now provide additional information. Have you heard of cases where investment firms or banks engaging in investment services in your Member State have already voluntarily bought insurances similar to those in the reference insurance?

	Investment firms		**Banks engaging in investment services**	
Insurance against investors' damages due to	Yes, there are some who bought insurances	No, I am not aware of any firm	Yes, there are some who bought insurances	No, I am not aware of any bank
Fraud (alone)				
Administrative malpractice (alone)				
Operational errors (alone)				
Bad advice (alone)				
'Four in one' package				

F. LEGAL QUESTIONS

7. Insurance cover in the cases of the basic insurance model according to the EP (see B.)

a) Do you see any data protection related problems when insurance companies have to reimburse clients of investment firms?

.....

b) Would insurances pay clients of investment firms when a single premium has not been paid?

.....

c) Do you see any regulatory problems connected with such basic insurances to investment firms? (Solvency II)

.....

d) Do you see any regulatory problems connected with basic insurances to Investor Compensation Schemes – instead of to investment firms? (Solvency II)

.....

e) From your point of view, which legal problems would arise when insurance companies were legally obliged to offer an insurance contract according to the "reference insurance contract"? If possible, please refer to elements of national law

.....

f) Do you see any legal obstacles to establishing a state-owned insurance company offering insurance contracts according to the "reference insurance contract"? If possible, please refer to elements of national law.

.....

G. Remarks

a) Please provide us with any ideas you might have on how to reach insurance cover from the basic model, e.g. in a different setting.

.....

B. Questionnaire to Insurance Supervisors

D. QUESTIONS

I. Compatibility with European Insurance Supervision Framework

1. Do you see problems arising with the Solvency II Framework in the following scenarios:

a. Reference Insurance Contract Model (see section C)> full and mandatory insurance to be taken out by investment firms:

Yes	No	Explain

b. As above in 1, but the full cover insurance is taken out by investment firms on a voluntary basis*

Yes	No	Explain

c. As above in 2, but the insurance is taken out voluntarily by investment firms and may cover only parts of the reference insurance contract (e.g. an insurance only against fraud), partial insurance.*

Yes	No	Explain

*assuming that there is still an investor compensation scheme in this scenario which covers the remaining risks.

d. Would your assessment given above (questions 1.-3.) change when the insurance is taken out by the investor compensation scheme (and not by its single investment firm member?

Yes	No	Explain

2. Do you see problems arising with other elements of the European Insurance supervision framework?

Yes	No	Explain

II. Systemic Risk

1. In the following, we identify some potential causes of changes in systemic risk connected with the replacement (in part or in full) of ICS by private insurance policies. We define systemic risk as a risk of adverse spillover effects to other insurance undertakings or the financial sector in general, caused by a failure or financial distress of an insurance undertaking.

Please tell us how you expect the different causes to change the systemic risk compared to the current scenario where investors' losses are covered by ICS but not by insurance undertakings. There is a possibility to provide remarks and to add other causes of systemic risk you may find relevant. Assume that an insurance undertaking covers investors' losses up to EUR 20 million per investment firm per case.

Potential cause of change in systemic risk by private insurance contracts	Change in systemic risk	Remarks
1. **'Team' problems** with **mandatory full** insurance[126]		
2. ...with **voluntary full insurance**		
3. ... with **voluntary partial insurance**		
4.**Transfer of risks from ICS (current scenario) to insurers and ICS (future scenario)[127] with mandatory full insurance**		
5. ... with **voluntary full insurance**		
6. ... with **voluntary partial insurance**		
7. The **insurance covers all** the **losses** of the investment firm's customers (unlimited cover by the insurance undertaking)[128]		
8. The **ICS** (and not the investment firms) **concludes full insurance for its members**. The liability cap for the insurance is EUR 20 million per ICS-Member per case.		
9. The **ICS** (and not the investment firms) **concludes full insurance for its members**. The liability cap is EUR 20 million per ICS-Member per case and additionally **EUR 50 million per ICS per year**		
10. The ICS takes out an 'excess of loss' insurance with one **insurance** undertaking. On a yearly basis, the insurance **covers** all **claims to the ICS which exceed EURO 10 Mio**. The insurance refunds **at most EUR 40. Mio. per year**.[129]		
11. **Interconnectedness** amongst insurance undertakings and with other financial market players.[130]		
12. **Other Issues**:		

2. Based on the figures shown in the Annex, in some Member States the number of investment firms is rather small. At the same time, a high number of insurance undertakings might compete in the market for ICS insurances for these investment firms. This may lead to a suboptimal risk diversification.

a) Do you share this assessment?

Yes	No

Explain

b) Do you think the Solvency II Framework is able to deal with this situation in an appropriate way?

Yes	No

Explain

c) As a way to bypass possible suboptimal risk diversification, some market players favour insurance pools of multiple insurance undertakings.

i. In your opinion, would this be an adequate solution?

Yes	No

Explain

[126] Given partial replacement of ICS by private insurances, the following 'team' problem may occur: ICS and insurance undertaking rely on each other's risk monitoring of the investment firm and cease to appropriately monitor relevant risk behaviour of the investment firm. Even under a full replacement of ICS by private insurances, such 'team' problem may arise if the ICS were still to cover damage above a certain liability cap set by the insurance undertaking. With the current scenario (ICS) there is no team problem.

[127] There might be suboptimal risk diversification given the relatively small number of investment firms an insurance might cover (see Annex).

[128] Currently, the ICS covers all losses.

[129] As a reference scenario, we assume that ICS did not take out such excess-loss insurances yet.

[130] Interconnectedness between ICS is very small.

ii. Would such insurance pools increase systemic risks?

Yes	No	Explain

d) Do you think insurance undertakings in your Member State will sell insurances to investment firms located in other Member States?

Yes	No	Explain

e) Do you think insurance undertakings in your Member State will sell insurances to investor compensation schemes located in other Member States?

Yes	No	Explain

3. Imagine that there is a **state-run insurance company** providing mandatory insurance contracts according to the 'reference insurance contract' (there is no private insurance anymore). **From your point of view, how would the below- mentioned problems change compared to a scenario where there are only private insurance undertakings?** Please feel free to provide remarks and add other economic problems not mentioned in the table below.

Potential Problem	**State-run insurance undertaking vs. private insurance undertaking**
1.Insurer's lack of expertise on investment firms	---
	Remarks:
2.Insurer's lack of expertise in insurance business	---
	Remarks:
3.Insurer wrongly assesses investment firm's risk	---
	Remarks:
4.Insufficient risk monitoring by the insurer	---
	Remarks:
5.Insufficient risk diversification by the insurer	---
	Remarks:
6.Low administrative efficiency of the insurer	---
	Remarks:
7.Systemic risk	---
	Remarks:
8.Impaired incentives on the side of the investment firms (moral hazard)	---
	Remarks:
9.Other Issue	---
	Remarks:

III. General legal questions

1. Assuming that insurance undertakings would not offer coverage for investor compensation: From your point of view, which legal problems would arise if insurance undertakings were legally obliged to offer an insurance contract according to the 'reference insurance contract' to be negotiated with the investment firm? If possible, please refer to elements of national law.

.....

2. Do you see any legal obstacles to establishing a state-owned insurance undertaking offering insurance contracts according to the 'reference insurance contract' (e.g. in case private insurance undertakings would not offer ICS coverage)? If possible, please refer to elements of national law.

.....

IV. Question for those Insurance Supervisory Authorities which are also responsible for Supervision over Securities Markets.

When investment firms (partially) exit the investor compensation scheme and conclude private insurances, investor protection would be guaranteed only if the insurance effectively exists at all times. In you opinion, how could you as securities supervisor ensure that the supervised firms have such insurance in place at all times?

.....

V. Remaining Remarks

Please provide us with any ideas you might have on other ways to establish insurance cover for the basic model, e.g. in a different setting, or any further comments you might have.

.....

C. Questionnaire to ICS

C. USE OF INSURANCE POLICIES BY INVESTOR COMPENSATION SCHEMES AND THEIR MEMBERS

1. Have you as an investor compensation scheme ever concluded an insurance to cover investors' claims arising out of Directive 97/9/EC?

☐ a) **Never**

☐ b) **We had such insurance in the past; but do not longer have it today**

Th☐ e insurance was valid from (year) until(year)
It covered: ...
It had the following insurance cap/liability cap: EUR million [131]
Reason for ceasing insurance: ...

☐ c) **We currently have such insurance since.** (year)

It covers: ...
The insurance has the following insurance cap/liability cap:
EUR million
Cost of the insurance per year:EUR

☐ d) **Comments**

2. Can members of your investor compensation scheme decrease their contributions to the scheme by (partially) taking out private insurance?

☐ a) **No**
☐ b) **Yes**
☐ c) **No, but they could in the past**, from (year) until (year).
We ceased this practice, because: ...

3. **If YES in 2):** Which kind of insurance is accepted by the investor compensation scheme?

☐ Crime insurance,[132] which is concluded by ... % of our members and which on average leads to a reduction of ... % in the individual member's contribution to the scheme.

☐ Pecuniary loss liability insurance,[133] which is concluded by ... % of our members and which on average leads to a reduction of ... % in the individual member's contribution to the scheme.

☐ ..... insurance, which is concluded by ... % of our members and which on average leads to a reduction of ... % in the individual member's contribution to the scheme.

☐ The following other means ..... can lead to a reduction of contributions by%

4. The **individual** yearly contribution by our members to the investor compensation scheme is on average EUR. ....

D. IMPACT OF BASIC MODEL ON INVESTOR COMPENSATION SCHEME CONTRIBUTIONS

Please consider the basic model as defined in Section B. This model is likely not identical to the existing rules relevant for compensation from your investor compensation scheme.

Please give your best estimate: which impact do you expect the basic model to have on the current contribution for an average member of your scheme?[134]

☐ No change in the ICS contribution per firm

[131] Please convert non-euro figures into euro.

[132] Crime insurance (also called business crime cover or fidelity insurance) is a type of insurance concluded by businesses that covers for the risk of fraud and other tortuous acts committed by employees of a company ('confidants') or third persons, for whom the company is liable. Typically, claims have their causation in employee's or third persons' dishonesty, robbery, embezzlement, forgery, theft or computer-related crime.

[133] The 'pecuniary loss liability insurance' provides coverage for the infringement of contractual duties undertaken by employees of the company with the consequence of real pecuniary detriment. Pecuniary loss liability insurances thus protect policyholders from, for instance, operational error, administrative malpractice or bad advice.

[134] We are aware of the fact that many investor compensation schemes are not able to change on their own the level of the investor compensation scheme contribution. We are asking you here to give your best economic assessment of which change in contribution would be necessary/appropriate to cover the investor compensation scheme's financial risks as defined by the basic model.

☐ ICS-contribution per firm decreases by more than 50%
☐ ICS-contribution per firm decreases by 30%-50%
☐ ICS-contribution per firm decreases by 10%-30%
☐ ICS-contribution per firm increases/decreases by max 10%
☐ ICS-contribution per firm increases by 10%-30%
☐ ICS-contribution per firm increases by 30%-50%
☐ ICS-contribution per firm increases by more than 50%

For the sake of clarity, for the remainder of the questionnaire, we will call this contribution the 'basic model contribution'.

E. IMPACT OF TAKING OUT INSURANCE POLICIES ON THE 'BASIC MODEL CONTRIBUTION' TO INVESTOR COMPENSATION SCHEMES

We now consider one modification of the basic model contract at a time.

Please give an estimate: as a consequence of each of these changes, how would an average member's basic model contribution to the investor compensation scheme change?

In order to help you with the pricing, the annex [displayed in the beginning] shows a table with some country-specific information: number of investment firms, number of failures, highest total payout for a failure.

Modification	ICS-contribution per firm as compared to the basic model contribution
1. ICS membership is **no longer mandatory.** Investment firms have the **option to fully exit the ICS** under the condition that they conclude a private insurance covering the events of the basic model.	---
2. **ICS do not cover fraud risk.** In- vestment firms must conclude private insurance for fraud risk. ICS covers the three remaining risks from the basic model on a mandatory basis.	---
3. **ICS do not cover malpractice, operational error and bad advice** risks. Investment firms must conclude private insurance for these risks. ICS covers fraud risk from the basic model on a mandatory basis.	---
4. The ICS compensates investors, but **damage between EUR 10 Mio and EUR 50 Mio.** per year for the entirety ICS-members is **not born by ICS** but by tax payers.[135]	---

F. LEGAL ISSUES

1. General questions to ICS

a) Can the investor compensation scheme take out insurance policies (as counterpart to the contract)?

Yes	No

Please explain:

b) Is your scheme a pure investment compensation scheme, or also a deposit guarantee scheme?

☐ a pure investor compensation scheme
☐ investor compensation scheme and deposit guarantee scheme.

2. Scenario 1: Partial insurance cover

Please consider the case where investment firms are no longer legally obliged to be fully covered as members of the investor compensation scheme in view of their investor compensation risk. E.g.: if investment firms can present proof of an insurance policy for a certain part of the basic model (e.g.: fraud), their contribution in the investor compensation scheme would only cover the remaining events.

a) Do you see legal problems connected with possible consequences of the partial replacement of investor compensation by private insurance policies taken out by investment firms on a voluntarily basis? If yes, which?

[135] This means: ICS at first compensates all claims up to a total payout of EUR 10 Mio. per year. Those parts of yearly compensation claims exceeding EUR 10 Mio. are born by tax payers up to a yearly subsidy of max. EUR 40 Mio.

E.g.: some ICS members might conclude private fraud insurance and request a lower contribution to the ICS as a consequence. The ICS might then have to increase the overall contributions for those members remaining in the investor compensation scheme.

b) Do you see legal problems connected with the partial replacement of investor compensation scheme contributions on a mandatory basis (e.g. fraud must always be insured by investment firms)? If yes, which?

c) In your opinion, would it be sufficiently clear in which cases the insurance is obliged to pay and when the ICS has to reimburse? Please explain.

d) Are you aware of any data protection problems in this scenario?

e) Do you expect payout problems in this scenario?

f) Should ICS have to determine if the insurance cover taken out is appropriate?
Are they presently in a position to do this?

3. Scenario 2: Full insurance cover

Please consider the case where investor compensation schemes are fully replaced by insurance policies taken out by investment firms.

Under a full replacement scenario, investor compensation schemes would no longer be necessary. Which legal problems do you envisage connected with the dissolution of investor compensation schemes?

G. GENERAL QUESTIONS

1. **Do you see a need for a European investor compensation scheme; either replacing national schemes or in addition to national schemes?**

Yes	No

Please explain:

2. **Question for those investor compensation schemes which are combined with deposit guarantee schemes:**

a) If investor compensation schemes were to be fully replaced by private insurance cover, do you expect any implications for the national deposit guarantee scheme?

Yes	No

b) If yes, which?

c) In case of such full replacement of investor compensation schemes by private insur- ance cover, do you expect changes in the contributions to those deposit guarantee schemes?

D. Questionnaire to Investment Firm Associations and Investment Firms

C. CURRENT AND/OR PAST USE OF INSURANCES BY INVESTMENT FIRMS

1. In your Member State, is it possible for investment firms to decrease the contributions to the investor compensation scheme by (partially) taking out private insurance?

☐ a) **No**
☐ b) **Yes**
☐ c) **No, but it was possible in the past from (year) to (year)**
d) **Comments: ...**

2. If YES in Question 1: Have you ever taken out an insurance leading to a rebate in the contribution to the investor compensation scheme?

☐ a) **Never**
☐ b) **We had such insurance in the past; but do not longer have it today**
The insurance was valid from (year) until (year)
Type of insurance: ....
It had the following insurance cap/liability cap: EUR million[136]
It led to a rebate in the ICS-contribution of %
Reason for ceasing insurance: ...
Comments: ...

☐ c) **We currently have such insurance since** (year)

- Type of insurance: ...
- The insurance has the following insurance cap/liability cap: EUR ... million

Cost of the insurance per year: EUR
It leads to a rebate in the ICS-contribution of %
Comments: ...

3. Over the past 10 years, our average overall yearly contribution to the investor compensation scheme was ... EUR

4. Do or did you take out insurances for one or more of the events of the basic model (e.g. fraud), even though these insurance(s) are not recognised as a (partial) substitute for contributions to the Investor Compensation Schemes?

☐ a) **No**

☐ b) **Yes, the following type of insurances: ...**

c) **Comments:**

[136] Please convert non-euro figures into euro.

D. LEGAL ISSUES

1. Scenario 1: Partial insurance cover

Please consider the case where investment firms are no longer legally obliged to be fully covered as members of the investor compensation scheme in view of their investor compensation risk. E.g.: if investment firms can present proof of an insurance policy for a certain part of the basic model (e.g.: fraud), their contribution in the investor compensation scheme would only cover the remaining events.

a) Do you see legal problems connected with possible consequences of the partial re- placement of investor compensation by private insurance policies taken out by in- vestment firms on a voluntarily basis? If yes, which?

E.g.: some ICS members might conclude fraud insurance and request a lower contribution to the ICS as a consequence. The ICS might then have to increase the overall contributions for those members remaining in the investor compensation scheme.

b) Do you see legal problems connected with the partial replacement of investor compensation scheme contributions on a mandatory basis (e.g. fraud must always be insured by investment firms)? If yes, which?

c) In your opinion, would it be sufficiently clear in which cases the insurance is obliged to pay and when the ICS has to reimburse? Please explain.

d) Are you aware of any data protection problems in this scenario?

e) Do you expect payout problems in this scenario?

f) Should ICS have to determine if the insurance cover taken out is appropriate? Are they presently in a position to do this?

2. Scenario 2: Full insurance cover

Please consider the case where investor compensation schemes are fully replaced by insurance policies taken out by investment firms.

Under a full replacement scenario, investor compensation schemes would no longer be necessary. Which legal problems do you envisage connected with the dissolution of investor compensation schemes?

E. GENERAL QUESTIONS

Do you see a need for a European investor compensation scheme; either replacing national schemes or in addition to national schemes?

Yes	No	Please explain:

NOTES

EUROPEAN PARLIAMENT

DIRECTORATE-GENERAL FOR INTERNAL POLICIES

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Alternatives to Investor Compensation Schemes and their Impact STUDY