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International comparison of the regulation of pension asset investments

Mika Vidlund, Maria Rissanen, Antti Mielonen and Ilkka Geitlin



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EXECUTIVE SUMMARY

In this survey, we review the investment operations of pension systems and closely related solvency regulations and other investment regulations in selected countries. In addition to Finland, we review the Netherlands, Great-Britain, Norway, Sweden and Denmark. In all of these countries, the pension provision is financed to a considerable degree by pension assets. We also examine the investment allocations of the central actors in the pension systems of said countries, as well as the investment returns. In addition, we consider the effects of national and international regulatory frameworks on pension investing.

We seek answers to the following key questions in our survey:

- What main rules and principles govern the investment operations in the different countries?
- What are the investment risk levels in the different countries?
- What is the ratio of international to domestic investments in the investment allocations of the selected actors?
- What kind of return have the selected actors received on their pension investments in recent years?

The survey shows that investment operations are increasingly often governed by international or, as for some investment instruments, global regulations. As a result of international cooperation, global bodies have been established to draft recommendations and goals for, in particular, the sustainability of the banking sector, the regulation of derivative financial instruments and structural solutions of banking groups. Pension funds, although not part of the banking sector, have to take into account or adjust to these regulatory projects and be familiar with the regulations of each type of investment. Partly due to the growth in pension fund assets, the range of investment instruments has become increasingly diversified. In addition, the low interest level forces pension funds to use a wider range of investment types.

In the past decades, solvency regulations have shifted more towards an assessment of risk-based and market-value assets and liabilities, in which the definition of solvency is based on the default risks of the actors' various investment instruments (e.g. Solvency II). As the risk-based regulation model has become more common, the Prudent Person Principle has become the main principle in the regulation of investment operations. Instead of quantitative investment regulations or restrictions, this principle steers investments.

In our survey, we analyse the difference in the risk levels of our selected actors' investment portfolios by roughly separating investments in fixed-income securities from other investments. The main thought is that those who operate with a smaller risk have a larger share of investments in fixed-income securities in their portfolios while the investment portfolios of those who operate with higher risks includes a larger share of other investments. Our survey shows that no major changes have taken place in the last decade when it comes to the share of investments in fixed-income securities. It has remained substantial: 40–60 per cent among the selected actors in our survey. In Sweden and Denmark, the share

has somewhat increased, while the share of investments in fixed-income securities of the Norwegian Government Pension Fund Global (GPF) and the Finnish private-sector pension providers has declined.

Based on the review of the regional allocation of investments, the share of domestic investments varies greatly between the selected actors. A characteristic feature of the GPF is that it invests only abroad. As much as 50–60 per cent of the pension investments of the Swedish actors are domestic. In Finland, there are considerable differences between the actors in terms of the geographical distribution of investments: 20 per cent of the investments of public-sector pension providers (Keva and the State Pension Fund) are domestic while the equivalent figure for private-sector pension providers is nearly 40 per cent.

A comparison of the returns of the groups of Finnish pension providers and of individual large foreign pension providers included in the survey shows that the average pension asset returns of Finnish groups of actors are on an average level or below that of the group of comparison during the review periods. The average, annual real returns in 2004–2013 varied from 3.4 per cent of the Finnish private-sector earnings-related pension providers to 8.0 per cent of the Danish ATP. The return of Finnish public-sector pension providers was 4.3 per cent. The actors and groups of actors under review in this survey are among the most successful of the pension investors: the average annual real returns are 1.1–5.7 percentage points higher than the average return of pension investments in OECD countries.

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1 Introduction¹

In this survey, written by the Finnish Centre for Pensions and The Finnish Pension Alliance TELA, we review the regulations relating to investments by pension systems in six European countries. In addition, we examine the investment returns and the investment allocations, as well as the effect on the pension actors of regulations for actors that are external to the pension systems. This publication is an abbreviation of the original 2014 publication in Finnish in which, among other things, the investment operations and regulations were examined separately for each reviewed country.

The survey was initially instigated by the financial crisis that began in 2008 and the ensuing increased banking and financial sector regulations, which also affect pension investments. In recent years, the pension investment regulations have been developed considerably also within national legislation. In addition, the significance of the EU has been emphasised in the regulations of the pension sector through the recent reforms of the international Solvency and IORP directives that govern pensions.

Due to the changes in regulations caused by the financial crisis and as the regulatory amendments of the EU were outlined, the time was right for a comprehensive look at the regulation of pension assets and investment-related factors through an extensive international comparison.

As for the investing and adequacy of pension assets, it is essential what kind of risks pension investors are entitled to take. In practice, it is a question about solvency. For example, in Finland, the solvency framework of pension insurance companies limits their investments. Under law, investments made with Finnish earnings-related pension assets must be profitable and prudent. The diversification of investments is governed in more detail by regulations on the covering of liabilities and the solvency of earnings-related pension providers. The assets of pension institutions must exceed their liabilities to a certain degree, i.e. their solvency margin must be large enough. The solvency is used to ensure pension providers' ability to manage the risks relating to their insurance and investment operations. The same principles apply to actors from other countries.

The financial crisis of 2008 has increased the need for and the measures taken to further secure pensions. As a result of the 2008 financial crises at the latest, supervision has been intensified and the managers of pension systems have been obligated to report and to undertake stress tests in order to chart their financial status and, hence, be in closer contact with their supervisors. Due to the financial crisis, much attention has been paid to solvency regulations with which the supervision of the protection of the insured and the policy holders is increased. At the same time, supervisors have gained more authority.

¹ The authors of the survey would like to thank Ismo Risku, Marjukka Hietaniemi and Mikko Kautto from the Finnish Centre for Pensions, Reijo Vanne, Suvi-Anne Siimes and Nikolas Elomaa from the Finnish Pension Alliance TELA, Mikko Kuusela from the Ministry of Social Affairs and Health, Pia Santavirta from the Federation of Finnish Financial Services, Tarja Kolehmainen and Päivi Malinen from Ilmarinen Mutual Pension Insurance Company on their valuable comments at different stages of the work. In addition we would like to thank Lena Koski who translated the publication and Suvi Pohjoisaho who prepared the survey for publication.

1.1 Structure and aims of survey

In this survey, we review how Finland scores when comparing the investment operations of pension systems and closely related solvency regulations and other investment regulations in selected countries. In our survey, we have also reviewed the investment allocations of the central actors in the pension systems of said countries, as well as their investment returns. We have selected 1–3 actors from each country. We also consider the effects of both national and international regulatory frameworks on pension investing.

The reviewed countries in addition to Finland are the Netherlands, Great Britain, Norway, Sweden and Denmark. In all of these, pension assets play a considerable part when looking at the sustainability and adequacy of pension provision. In these reviewed countries, the (earnings-related) pension systems are far developed, although their structure and implementation vary from the statutory and strictly regulated earnings-related pension provision of the Nordic countries to the Anglo-American model of voluntary supplementary pension arrangements and less strict regulations.

When reviewed in terms of the financing of the earnings-related pension provision, the reviewed countries can be divided into two groups: fully funded systems with private actors (the Netherlands, Great Britain, Denmark) and pay-as-you-go systems, which make use of national buffer funds (Sweden, Norway). The Finnish earnings-related pension system includes features from both systems: the pay-as-you-go feature is supplemented (mainly) by partial funding managed by private actors. Thus, in structural terms, Finland falls in the middle of the reviewed countries. This should be kept in mind when looking at the investment regulations under review.

This survey consists of three parts. In the first part, we look at which central principles and transnational regulations govern investments. In the second part, we compare the investment returns and the differences in investment allocations of the selected actors. Finally, in the conclusions, we present our main results and provide answers to the following questions:

- What main rules and principles govern the investment operations in the different countries?
- What are the investment risk levels in the different countries?
- What is the ratio of international to domestic investments in the investment allocations of the selected actors?
- What kind of return have the selected actors received on their pension investments in recent years?

In this survey, we do not take a stand on what would be a theoretically optimal investment portfolio. Instead, we review the investment portfolios' risk levels and examine whether the so-called equity home bias phenomenon exist in Finland and in the reviewed countries.

In addition to the investment allocations, we also review how the investment returns of the selected actors compare with each other.

2 Central principles and regulations governing investments

Less than twenty years ago, the regulations of the investments of pension funds varied greatly in different European countries, and the limits applying to the selection of different investment targets deviated considerably from each other. Today, there are many similarities in the investment regulations of the reviewed countries. One of the main reasons for this is EU's attempt to unify Member States' solvency regulations and the steering effect this has on actors to which the regulations apply only indirectly.

Traditionally, investments of insurance companies have been regulated by limiting the amount that the company can invest in certain investment instruments. As a result of the development of transnational regulation, the European supervision and regulation of pension assets has largely moved towards a so-called prudent person principle and risk-based management. Now investments are regulated mainly from the point of view of the locus of risk rather than through detailed limitations. Taking into account its own risk profile, the company has to assess what the conservative level of investments and assets is. This practice has been in force in Anglo-Saxon countries for a longer period of time (Pylkkönen 1996).

Nowadays, national legislation relating to solvency regulations and investment supervision is increasingly developed on a transnational level. The EU exercises great influence on regulations concerning, in particular, occupational pensions. There are several legislative projects under way concerning such regulations. Recently, there has been much talk about the EU Commission's plans to unify the solvency regulations of the EU Member States. The Directive (2009/138/EC) of the European Parliament and of the Council on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II) was issued on 25 November 2009. The main principles of the recommendation correspond in many respects to the Basel II reform of the banking industry, which is based on Directive 2006/48/EC relating to the taking up and pursuit of the business of credit institutions. The Solvency II Directive was supposed to come into force on 31 October 2012, but it has been postponed and will apply as of 1 January 2016.

In addition, amendments to the IORP Directive are being prepared. Their original goal was to conform the solvency requirements of so-called II pillar occupational pension funds to the principles of Solvency II. The preparations of a common solvency frame have been suspended until further notice. The commission's proposal (COM[2014] 167 final) for a reform of the Directive 2003/41/EC of the European Parliament and of the Council on the activities and supervision of institutions for occupational retirement provision was issued on 27 March 2014. The directive is scheduled to take effect in 2017.

2.1 Profitability and prudence

The general principle that governs the investment operations of pension providers is that pension assets must be invested profitably and prudently. In Finland this requirement is written in the law. Similar requirements for pension providers exist also in other countries. For example, according to trust law in the UK, the trustee has a fiduciary duty to act *in*

good faith and in the best interests of the beneficiaries. Likewise, according to legislation, the task of the Swedish AP funds is to maximize long-term return, with a low level of risk, for the benefit of those insured in the retirement pension system². Similarly, in the Netherlands under investment regulation legislation, pension assets must be invested so that the portfolio's solidity, quality, liquidity and profit are ensured.³

In addition to the renewal of measures developed to secure the pension assets and the increasing solidity requirements, the ageing of the population and the financial stagnation that has prevailed in Europe for the past few years have increased the demand for pension asset investment returns. In addition to extending working lives, the investment returns should be sufficient to secure a sustainable pension system.

Generally speaking, the value of equities and other higher-yielding instruments fluctuates quite strongly. Correspondingly, the value of bonds and other investments in fixed-income securities fluctuate less but, on the other hand, the return is usually lower than for equities. Thus, from the point of view of profitability, the share of equities and other high-yielding instruments should be considerable in pension asset investment portfolios. Yet excessive risk-taking and putting all eggs into one basket should be avoided, both due to the principle of prudence and the risk-based solvency regulations.

The solvency regulations are a central part of the regulatory framework, the aim of which is to secure the risk management of pension investments. The opportunity to increase investment risks is linked individually to each insurance company's solvency margin. In Finland, the solvency regulations have been claimed to limit the efficiency of the investment operations of pension insurance companies. Because of the solvency regulations, it has been claimed that the investment strategies of earnings-related pension insurance companies are too similar to each other and that the companies are not free to make their own investment decisions (see, e.g. Johanson *et al.* 2011). In his evaluation of the Finnish pension system, Ambachtsheer (2013) asks whether the solvency regulations are needed at all as 75 per cent of the system is pay-go funded. According to Ambachtsheer, the regulations limit long-term investing and prevent more profitable investments.

In our survey, we review how the line is drawn between profitability and prudence through, among other things, the relative share of various instruments in the pension actors' investment portfolios in the selected countries. The investment regulations and strategies and, at the same time, the other features (e.g. defined benefit, defined contribution) of the pension systems are realised in practice through the risk level of the actors' investment portfolios. For the sake of simplicity, it is often natural to think of the division of investment assets into equity and interest rate markets. We have attempted to review this aspect by comparing the share of other than interest-bearing papers of the total investments in the investment portfolios. The larger the share of other instruments, the larger the estimated aspiration for profit and hence also risk.

Related to the issues of profitability and prudence are the discussions of investing the pension assets in foreign and domestic targets. In 2005, slightly less than one third of the

2 Lag (2000:192) om allmänna pensionsfonder (AP-fonder). <http://www.notisum.se/rnp/sls/lag/20000192.htm>

3 The FTK-decree of the Pension Act. Besluit financieel toetsingskader pensioenfondsen: http://wetten.overheid.nl/BWBR0020871/geldigheidsdatum_30-03-2015

investments of pension insurers were in domestic targets. The share has remained roughly the same to the current date. According to the Finnish Pension Alliance TELA, a total of EUR 49.5 billion were invested in Finland. This accounts for 30 per cent of the investment assets. According to theories in mathematical finance, international diversification offers an efficient use of financial resources. In addition, the international diversification is a central method used in risk management. The public discussion in Finland has called for an equity home bias of pension insurers in order to, among other things, improve employment rates. Several studies show that the home bias phenomenon is global. Historically speaking, the connection between the investments of private-sector pension funds and corporate investments in Finland has been close, as the majority of the investments until the early 1990s were in fact loans for the client companies (premium lending). As a result of the liberalized financial markets, this tight connection between premium lending and pension providers investments has been dissolved (Hyytinen *et al.* 2010).

2.2 Prudent person principle instead of quantitative limitations

As the risk-based model has become more common in legislation that governs pension systems, the explicit quantitative investment regulations or limitations are decreasing and being replaced by qualitative principles and regulations that apply to a pension insurer's *modus operandi*. The OECD also recommends the model in question in the OECD Guidelines on Pension Fund Asset Management 2006⁴. In the Solvency II Directive, instead of quantitative regulations, investments are mainly regulated by the so-called Prudent Person Principle. According to this principle, the actors may, in general, invest their assets as they wish, as long as the operations are governed by certain qualitative principles. These principles have been listed in Article 132 of the directive⁵.

The prudent person principle pays more attention to the process of investing, i.e. to risk mapping and management, than to the actual profitability aims. The actors must set their own internal limits for their investment operations. When determining the limits, the prudent person principle and a risk-based solvency calculation are in a key position. (See e.g. Galer 2002.) The renewed IORP Directive also contributes to the Member States' reduced opportunities to make direct quantitative limitations. According to the new directive, the Member States may not limit pension providers from investing in instruments that promote growth. Thus, the supervisory organisations of the Member States could only restrict the share of equities exceeding 70 per cent of the total assets.

Despite the increased qualitative nature of investment regulations, quantitative limitations continue to be set on pension providers in most industrial countries. According to a review by the OECD (2014), the only OECD countries not to pose limitations on the types of assets owned by pension providers are Australia, Belgium, Canada, Great-Britain, Ireland, the Netherlands and the United States. The limitations are most frequently related

4 OECD (2006) Guidelines on Pension Fund Asset Management. <http://www.oecd.org/finance/private-pensions/36316399.pdf>

5 DIRECTIVE 2009/138/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 25 November 2009 on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II). <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:335:0001:0155:en:PDF>

to investments in shares and, more strictly, to investments in unlisted shares. There may be actor-specific differences in equity investments, such as in Germany where, contrary to other actors, supplementary pension funds (Pensionsfonds) may invest all their assets in shares. In Finland, the amount of private-sector statutory pension investments in shares are directly limited by regulations governing assets held to cover technical provisions: under law, a maximum of 15 per cent of pension assets can be invested in unlisted shares. Countries also have varying limitations when it comes to other types of asset classes. In addition, foreign investments are generally restricted. The regulations are used to limit the amount and share of foreign investment asset classes to the overall assets and the geographical allocation of the investments. Other limitations include regulations concerning the share of ownership of companies invested in.

2.3 Ethical investment principles

The Environmental, Social, Governance (ESG) investment principles have gained importance in recent years also in pension investments. However, in the reviewed countries, these principles are generally not binding but mainly voluntary. In some cases, they are binding in terms of the reporting of the investment principles. In Britain, since the year 2000, the law has obligated pension funds to report not only their general investment principles but also possible ethical principles relating to their investment operations. In the other reviewed countries, the pension funds are not obligated under law to adhere to or report ethical principles, but often the larger actors (e.g. the ABP and the PFZW of the Netherlands or Alecta of Sweden) also take ethical principles into account when making investment decisions. According to a review covering 12 European countries (including the countries of this survey), 56 per cent of the pension funds compared paid at least some attention to ethical principles in their investment operations. However, for some complex investment instruments, adhering to such principles may be difficult. (Eurosif 2011.)

When it comes to buffer funds, the ethical principles may be more binding. In Norway, the ethical regulations of the GPFG prohibit investments in, among others, the arms and tobacco industries and in companies which are involved in, for example, human rights violations, corruption or environmental crime^{6,7}. In Sweden in 2007, the buffer funds (First to Fourth AP funds) established the Ethical Council (Etikrådet) for responsible investments. It provides expert guidance in questions relating to, among other things, ethical investments and corporate responsibility. The Ethical Council aims to influence corporations by emphasizing responsible operations. Likewise, in Finland Keva has a similar body that coordinates and develops responsible investing: the Responsible Investment Steering Group. Both Keva (in 2008) and the State Pension Fund (in 2011) have signed the UN's Principles for Responsible Investment (UN PRI).

6 Regjeringen.no. Guidelines for the observation and exclusion of companies from the Government Pension Fund Global's investment universe. <https://www.regjeringen.no/en/topics/the-economy/the-government-pension-fund/responsible-investments/guidelines-for-observation-and-exclusion/id594254/>

7 Strategy Council 2013. Responsible Investment and the Norwegian Government Pension Fund Global – Main Report. https://www.regjeringen.no/contentassets/67729d894e5745678a4988d86f210aea/sc_mainreport.pdf

2.4 Assessing Solvency

Traditionally, the solvency calculation of life insurance companies in particular has been based on averaged asset values or long-term values, and when calculating the liabilities, a fixed-rate discount rate and a fixed-rate solvency buffer relating to insurance premiums have been used (Severinson & Yermo 2012).

However, in the past decades, the regulation that is applied to life insurance companies has shifted more towards an assessment of risk-based and market-value assets and liabilities, in which the definition of solvency is based on the default risks of the actors' various investment instruments (e.g. Solvency II). In this way, the solvency buffers required of actors that invest in more risk-prone asset types is larger compared to actors with a lower-risk portfolio. At the same time, the liabilities should be calculated according to the return of risk-free instruments, reflecting the character of the liabilities.

In general, the above-mentioned principle has not been applied to traditional pension providers (industry-wide pension funds and company pension funds). In the reviewed countries, however, the risk-based model is applied fairly comprehensively. For example, the OECD (Severinson & Yermo 2012) finds Finland and the Netherlands to be forerunners in the monitoring of solvency as, for a longer period of time, also other actors than insurance companies have been subject to an assessment model comparable to that of Solvency II.

In Finland, the solvency requirements for industry-wide pension funds and company pension funds were reformed between 1996 and 1998 to correspond to the similar regulations of earnings-related pension companies. The current solvency regulations for pension providers, which bind the supervisory limits to the risk rate of the investment property, came into force in 1997. There are no solvency requirements for public-sector actors.

The solvency regulations of Finnish private-sector pension providers have been reformed in recent years: in 2008 in connection with the financial crisis and again in 2011 and 2013, when the first two phases of a three-phase reform came into effect. The third phase will come into effect as of the beginning of 2017. In the first two phases, the solvency regulations were changed so that they became more contracyclical, i.e. so that they function better against the market conditions. If the market conditions weaken the equity values considerably, the authorities can now temporarily ease the solvency regulations or related liabilities so that pension providers do not have to materialise their assets when facing bear markets. In addition, in the third phase, the calculation method for the solvency regulations of private-sector pension providers will be renewed so that the procedure that is now largely based on a classification of instruments will shift to a system based on the risks of the instruments.

2.5 Solvency II Directive

The main impacts of the directive focus on a central complex of issues that regulate the operations of an insurance company, such as the company's solvency requirements, the administrative system, reporting, information releases and supervision. The significance of the reform is extremely large for the European insurance field and for the supervisory authorities, since in some European countries, insurance companies or related actors handle a larger portion of social insurance than they do in Finland. However, Solvency II will not

cover statutory pension insurance and hence not the Finnish statutory earnings-related pension system. In many other European countries, the significance of occupational supplementary pensions is considerably larger, and the majority of them are managed by life insurance companies.

The Solvency II Directive⁸ aims to standardise the solvency requirements and principles of insurance supervision for insurance and reinsurance businesses in the EU Member States, to improve the security of policy holders and beneficiaries, and to increase the international competitiveness of the European insurance field.

The solvency requirements of Solvency II are based on the actual financial status and risk profile of the insurance institution. All relevant risks are taken into account in the solvency regulations (insurance, market, credit, currency, counterparty and operative risks). Solvency II regulates, among other things, two capital limits: the Solvency Capital Requirement and the Minimum Capital Requirement. The former defines the amount of capital that a non-life or a life insurance company must have so that it can endure considerable unforeseeable losses and thus be reliable from the point of view of the policyholder. The latter defines the capital level below which the interests of the policyholder would be considerably jeopardised; going below that level launches special supervisory measures.

As for administration and supervision, the central reforms of the Solvency II apply to, on the one hand, the requirements of a reliable administration and, on the other hand, the supervision of solvency. The regulations concerning the reliable administration of insurance companies has been reformed so that increasing emphasis is paid to the liability of the insurance company's management in relation to an anticipatory, efficient and transparent administration and risk management of the insurance company. Furthermore, the reporting to supervisory authorities and the information release of insurance institutions will be standardized and expanded. The supervisory rights of supervisors will be harmonized through reforms relating to the supervision of insurance companies. The aim is to increasingly unify supervisory practices, in relation to which regulations concerning the supervisory process will be issued for the first time. The regulations emphasise risk-based supervision.

In the future, the Solvency II Directive and the Commission's regulations will be supplemented with instructions and recommendations issued by the European Insurance and Occupational Pensions Authority (EIOPA).

2.6 The IORP Directive

Occupational pensions and pension funds are regulated on an EU level with the so-called IORP Directive (Directive 2003/41/EC of the European Parliament and of the Council on the activities and supervision of institutions for occupational retirement provision). The directive is not applied on the Finnish statutory earnings-related pension system, but it is applied to the industry-wide pension funds and company pension funds in Finland insofar as they offer occupational pensions. Under Article 2 of the directive, the directive's scope

⁸ DIRECTIVE 2009/138/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 25 November 2009 on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II). <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:335:0001:0155:en:PDF>

of application includes institutions that offer occupational pensions. The directive includes regulations on, among other things, the separation of financial companies and occupational insurance companies from each other, the duties to inform pension recipients and members of the institution, authority reporting, the power of competent authorities, technical provisions, principles relating to investing, cross-border operations and the administration of property and the custody of assets.

The Commission has justified the reform of directive (so called IORP II) by, among other things, more efficient regulations and an improved fund management to allow pension funds to handle their pension obligations and to be sufficiently administered. In addition, the Commission wants to improve economic growth and steer assets into long-term real economy investments: pension funds administer considerable assets on an EU level⁹.

The Commission's proposal does not include specific solvency regulations but focuses on other sectors. Regarding investments, for example, the Commission wants to prevent Member States from excessively limiting, through national legislation, pension funds from investing in share-like instruments. It also wishes to facilitate the operations and establishment of cross-border pension funds.

2.7 Pension funds part of larger asset management regulation

In their practical investment operations, pension funds have to take into consideration the changes in regulations for the banking and financial sector since banks play a major role in the capital market, for example, in securities trading, as financing agents, as market makers and as administrators of currency and payment systems. In this connection, 'banks' refers to credit and financial institutions which are subject to supervision and which operate under a license.

In addition to banks, there is an increasing number of so-called shadow banks operating in the financial markets. They are financial agents that are external to the banking field¹⁰. For example, if a real estate deal is financed by a non-life insurance company instead of a bank, the non-life insurance company is a shadow bank. Both in the west and in Asia, there is an increasing number of actors in the shadow bank sector. There are various assessments of the size of this sector¹¹. In general, the actors of the shadow banking sector are regulated by other regulations than those that apply to credit institutions.

In the following, we present a brief review of the banking and financial sector regulations, as well as of the regulations of various types of instruments. Regulations in the insurance field are similar to those in the banking field. For example "Basel for insurers" is how the European Union's Solvency II Directive is often described. In other words, Solvency II is somewhat similar to the banking regulations of Basel II.

9 COM(2014) 167 final, 27.3.2014. Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the activities and supervision of institutions for occupational retirement provision http://ec.europa.eu/internal_market/pensions/docs/directive/140327_proposal_en.pdf

10 Financial Stability Board: Strengthening Oversight and Regulation of Shadow Banking – An Overview of Policy Recommendations, 29 Aug 2013.

11 See e.g. Financial Stability Board, Global Shadow Banking Monitoring Report 2013, Nov 2012.

Pension funds were not the source of the financial crisis, but second to the banking and asset management sector, they are among the most influential actors affected by regulation. In addition, low interests launched by the financial crisis force pension investors to continually seek profit from a wider range of instruments. This means that the related regulations must be known in detail and adhered to. The aim of increasing regulations is to add transparency to the markets and to improve investor rights. On the other hand, the rising administrative costs of the funds as a result of the increasing regulation pose possible threats, as they raise the administrative fees that investors have to pay.

2.7.1 Changes to banks' capital requirements and the Basel regulatory framework

The main regulatory framework for the banking sector is the Basel regulatory framework, drawn up by the Bank for International Settlements (BIS). The third instalment of the Basel regulatory framework, the so-called Basel III¹², has already been published. It regulates, first and foremost, the solvency of banks: the solvency margin of banks is divided into tiers, some of which are long-term assets while others are such that they can be quickly liquidated. The liquidity coverage ratio (LCR) includes regulations on the amount of securities that a credit institution must have that can be realised within 30 days.

Basel III includes the so-called Capital Requirements Regulation¹³ and Directive (CRR/CRD IV)¹⁴ for the EU area. The directive and the regulation include the Basel III regulative framework, as well as other minimum requirements set for banking operations within the EU area. The Commission has also desired to unify the competitive preconditions of the banks in the EU area, which is why the capital requirements for all banks (rather than just for major banks) have been regulated at the level of the Basel III regulative framework.

Changes to banking regulations

In addition to the Basel III regulatory framework, the regulatory changes that have been of significance to banks have concerned what operations banks can engage in. In the United States, the Volcker rule¹⁵, which is part of the Dodd-Frank Wall Street Reform¹⁶ and Consumer Protection Act, prohibits US banks from engaging in proprietary trading. The same issue has been discussed in Great Britain by the so-called Vickers group¹⁷ and in the European Commission by the Liikanen group¹⁸. Both groups have presented recommendations on, for

12 Bank for International Settlements. International regulatory framework for banks (Basel III). <http://www.bis.org/bcbs/basel3.htm>.

13 Regulation (EU) No 575/2013 of the European Parliament and of the Council on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012.

14 Directive 2013/36/EU of the European Parliament and of the Council on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, 26 Jun 2013, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC.

15 See e.g. Department of the Treasury, Prohibitions and Restrictions on Proprietary Trading and Certain Interests In, and Relationships With, Hedge Funds and Private Equity Funds.

16 The Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub.L. 111–203, H.R. 4173.

17 Independent Commission on Banking, Final Report – Recommendations, Sep 2011.

18 High-level Expert Group on reforming the structure of the EU banking sector chaired by Erkki Liikanen, Final Report, 2 Oct 2012.

example, how the ratio between banking activities and trading with the bank's own assets should be handled in the future. Based on the work by Liikanen's group, the EU Commission issued a proposal for a regulation on 29 January 2014¹⁹.

Coherent banking supervision of the Eurozone and recovery resolution

The EU Member States have agreed on the Single Supervisory Mechanism (SSM) and the Single Resolution Mechanism (SRM)¹⁸. In addition, an EU Single Rulebook²⁰ for deposit and commercial banks is under construction. The Bank Recovery and Resolution Directive (BRRD) was issued on 15 May 2014²¹. In addition to the directive, the Commission issued a proposal for a delegated regulation on 21 October 2014, which would define, among other things, how much each individual credit institution would have to pay into its liquidation funds each year²². The proposed regulation is very detailed and includes several attachments. Furthermore, the European Banking Authority (EBA) has held several hearings for the market actors on, for example, proposals and instructions for technical standards²³.

2.7.2 MIFID – Investment Services and regulated markets

The most significant regulatory framework for securities in the EU area is probably the Markets in Financial Instruments Directive (MIFID II²⁴) and the reform of the MIFIR regulation²⁵. On a general level, MIFID II/MIFIR focus on the regulation of trade centres, investment service companies, centre counterparts and stock exchanges. They also apply to the regulation of the implementation of investor protection, sales and offerings of investment services and authority supervision. MIFID applies to equities, bonds, derivatives and investment funds' fund of funds.

The reform is very extensive: The project includes new reporting obligations for administrators of market places relating to, among other things, the trade volumes of the market places and the types of exchanged securities. The aims of the reform include

- to influence the transparency of the price formation on the markets, in particular regarding such market places from which information has not been reported to authorities or public registers

19 Proposal for a Regulation of the European Parliament and of the Council on structural measures improving the resilience of EU credit institutions, COM(2014) 43 final.

20 <http://www.eba.europa.eu/regulation-and-policy/single-rulebook>.

21 Directive 2014/59/EU of the European Parliament and of the Council of 15 May 2014 establishing a framework for the recovery and resolution of credit institutions and investment firms and amending.

22 Commission Delegated Regulation (EU) No.../... of XXX supplementing Directive 2014/59/EU of the European Parliament and of the Council of 15 May 2014 with regard to ex ante contributions to resolution financing arrangements, C(2014) 7674/3.

23 EBA/CP/2014/30 October 2014, EBA/CP/2014/29 October 2014, EBA/CP/2014/28 September 2014, EBA/CP/2014/26 September 2014, EBA/CP/2014/25 September 2014, EBA/CP/2014/24 September 2014, EBA/CP/2014/23 September 2014, EBA/CP/2014/22 September 2014, EBA/CP/2014/21 September 2014, EBA/CP/2014/09 September 2014, EBA/CP/2014/18 July 2014, EBA/CP/2014/16 July 2014, EBA/CP/2014/15 July 2014, EBA/GL/2014/06 July 2014, EBA/RTS/2014/12 July 2014 and EBA/RTS/2014/11 July 2014.

24 Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU, Jun 2014.

25 Regulation (EU) No 600/2014 of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Regulation (EU) No 648/2012, Jun 2014.

- to unify and fortify the powers of supervisory authorities in the EU area and to harmonise supervisory sanctions
- to increase competition and the prerequisites for competition
- to strengthen investment protection
- to harmonise the regulations that apply to third countries, i.e. countries outside the EU.

MIFID II will be implemented as a directive into the legislation of the EU Member States. As a regulation, MIFIR is directly binding to the Member States and the actors. Furthermore, the Commission will issue an implementation regulation for both MIFID II and MIFIR. In addition, regulations from all three EU market supervisory authorities (European Banking Authority/EBA, European Insurance and Occupational Pensions Authority/ESMA and Markets Authority) are to be expected since the scope of application of MIFID II/MIFIR is so extensive. As for derivatives, the MIFID package regulates the procedures of the trade in derivatives in the same way as does the EMIR regulation (see below for more details).

The Commission has estimated that the implementation of the MIFID package will result in a lump-sum cost of EUR 512–732 million for actors in the financial and investment sector, as well as running annual expenses of EUR 312–586²⁶. The costs are considerable, and small actors will probably face increasing difficulties with meeting all regulatory requirements. Mid- and long-term, instead of increasing competition, the regulation may drive smaller actors to merge with larger ones and reduce the range of actors.

2.7.3 Reporting short selling

In 2012, a regulation on short selling was issued by the EU²⁷. The regulation has been supplemented with a technical implementation regulation²⁸, which applies to, among other things, technical standards and notification procedures relating to short selling. Thanks to the regulation, all EU Member States have uniform regulations on the short selling of securities and government bonds and on the notification of short positions. Underlying the regulation were, among other things, problems observed during the financial crisis that related to speculative short sellings, which were allocated to the troubled stocks of insurance and banking groups.

After the financial crisis, during the so-called euro crisis, the same speculative short selling was observed with credit default swaps of government bonds, which protect the creditor against a state's insolvency²⁹. The aim of the regulation is to increase stability on the capital markets and to prevent the birth of system risks. The regulation was enacted

26 Markets in Financial Instruments Directive (MiFID II): Frequently Asked Questions, European Commission MEMO/14/305, Apr 2014 2014.

27 Regulation (EU) No 236/2012 of the European Parliament and of the Council of 14 March 2012 on short selling and certain aspects of credit default swaps.

28 Commission Delegated Regulation (EU) No 918/2012 of 5 July 2012 supplementing Regulation (EU) No 236/2012 of the European Parliament and of the Council on short selling and certain aspects of credit default swaps with regard to definitions, the calculation of net short positions, covered sovereign credit default swaps, notification thresholds, liquidity thresholds for suspending restrictions, significant falls in the value of financial instruments and adverse event.

29 http://ec.europa.eu/internal_market/securities/short_selling/index_en.htm

also because many Member States in the EU area had to pose national bans on short selling without a centralised coordination on the quality, duration or impact of the measures.

The regulation obligates the national supervisor of each EU Member State to publish on its website the short selling positions whose values exceed 0.5 per cent of the target company's issued share capital. The market actors must report these positions to the authorities who administer the said public register on their websites. In addition, the actors must notify the competent authority without a public duty to notify of all such positions that exceed 0.2 per cent of the combined share capital.

As for the credit default swaps of government bonds, the limiting value is determined by the European Securities and Markets Authority (ESMA). ESMA keeps a continuously updated register on its website. Its figures are based on the total amount of the home state's national debt notified by the national authorities³⁰. The special limiting values are 0.1 and 0.5 per cent of the amount of the issued national debt. There is no public obligation to notify when it comes to government credit default swaps. All positions are calculated in net amounts, regardless of whether they are corporate securities or government bonds.

The regulation also prohibits short selling completely when the drawer of the position has not borrowed shares or made equivalent arrangements for the securities in question (so-called naked short selling). This applies to both government bonds and listed shares.

2.7.4 Regulative amendments to unlisted shares (i.e. private equity and hedge funds)

The Alternative Investment Fund Managers Directive (AIFMD)³¹, was issued by the Commission and implemented in the 2014 legislation of EU's Member States. The directive regulates the management and marketing of alternative investment funds offered to professional investors. The regulation is directed at managers of previously unregulated alternative unlisted investment funds, such as real estate, private equity and hedge funds. A regulative framework of their own was desired for these funds after the financial crisis, as major system risks were seen in hedge funds in particular. The directive has been supplemented with the Commission's regulations relating to, among other things, the handling of debts, depositories and general management principles³², as well as technical standards relating to the classification of funds³³, and with two implementation regulations³⁴. In addition, the European Securities and Markets Authority (ESMA) has issued instructions on how to apply the directive³⁵.

30 <http://www.esma.europa.eu/page/Net-short-position-notification-thresholds-sovereign-issuers>

31 Directive 2011/61/EU of the European Parliament and of the Council, 8 Jun 2011.

32 Commission Delegated Regulation (EU) No 231/2013 of 19 Dec 2012 supplementing Directive 2011/61/E.

33 Commission Delegated Regulation 17 Dec 2013 supplementing Directive 2011/61/EU.

34 Commission Implementing Regulation (EU) No 448/2013 of 15 May 2013 ja Commission Implementing Regulation (EU) No 447/2013 of 15 May 2013.

35 See e.g. Guidelines on sound remuneration policies under the AIFMD, ESMA/2013/232, 3 Jul 2013 sekä Questions and Answers – Application of the AIFMD, ESMA/2014/868, 21 Jul 2014 ja Guidelines on key concepts of the AIFMD, ESMA/2013/611, 13 Aug 2013.

The AIFMD obligates the fund managers to, among other things, report in detail the allocations and instruments of the assets they manage. In addition, the operations have to be arranged sufficiently carefully and the risk management must meet the requirements of the directive. The perhaps most significant obligations from the point of view of the markets concern the use and reporting of debts, i.e. of leverages. From the point of view of private equity, another important obligation concerns limitations relating to the editing of the private equity of target companies. Relating to the scope of application of the AIFMD, it is important to observe that the funds regulated under the so-called UCITS directive or the UCITS regime are outside the AIFMD's scope of application³⁶.

Relative to the AIFMD, the Commission has issued other regulative amendments that apply to instruments that are in the form of funds. The regulations issued by the EU Commission on the funding of start-up funds or risk venture capital funds (European Venture Capital Fund Regulation, EUVeca³⁷), as well as on social entrepreneurship funds (European Social Entrepreneurship Fund Regulation, EUSeF³⁸) came into effect on 22 July 2013. In addition to the development of economic growth, the regulations were made to create a lighter regulatory regime alongside the AIFMD for small funds which are smaller in size than the limits set by the AIFMD.

The EUVeca fund must invest at least 70 per cent of its assets into start-ups. The EUSeF fund is used to steer more assets into socially non-profit investments. At least 70 per cent of the fund's assets must be invested into social corporations or investments.

The Commission has processed an increase of long-term funding within the EU area in several motions (e.g. a communiqué on the increase of long-term funding³⁹). Concrete regulative motions to improve funding and economic growth within the EU area have also been made. One concrete motion was the regulative motion published on 26 June 2013 for a special type of fund for long-term investments (European Long Term Investment Fund, ELTIF)⁴⁰. ELTIF was to be a realisation platform for, in particular, different real estate, infra, PPP and similar projects. As a rule, according to the regulative motion, the ELTIF fund was to invest in unlisted shares. However, the investment targets have been defined more broadly and permissively than in the funds under the EUVeca or EuSeF regulations. The manager of an ELTIF fund has to be an accepted fund manager under the AIFMD. Thus, the ELTIF belongs to the AIFMD's regulatory regime or family.

2.7.5 Changes in regulations for derivatives

The regulation of the trade in derivatives rose into focus after the financial crisis when several international commercial banks and insurance companies went bankrupt, partly due

36 Directive 85/611/EEC, 20 Dec 1985, on the coordination of laws, regulations and administrative provisions relating to undertakings for collective investment in transferable securities (UCITS); and later versions of the Directive.

37 Regulation No 345/2013 on European Venture Capital Funds (EuVECA).

38 Regulation No 346/2013 on European Social Entrepreneurship Funds (EuSEF).

39 Communication from the Commission to the European Parliament and the Council on Long-Term Financing of the European Economy, Mar 2014, COM(2014) 168 final.

40 Proposal for a Regulation of the European Parliament and of the Council on European Long-Term Investment Funds, COM (2013) 462 final, Jun 2013.

to the realisation of risks relating to the counterparty and surety position in the trade of derivatives, and partly because of a lack of sufficient risk buffers.

In 2009, the G20 countries drew a principle definition of policy, according to which the positions of mutual, i.e. OTC derivative financial instruments must be brought into the scope of authority supervision. An OTC derivative financial instrument is a mutual agreement between two market participants that is not centrally cleared; thus, until now, the central information of these instruments has not been known to authority supervisors. In both the U.S. and the EU, regulatory projects were launched because of this: in the U.S., the Dodd-Frank Wall Street Reform and Consumer Protection Act⁴¹ and in the EU, the European Infrastructure Market Regulation (EMIR)⁴².

EMIR (648/2012) has been supplemented by implementation regulations and technical standards⁴³. In addition, the European Securities and Markets Authority (ESMA) has conducted hearings and compiled technical standards on, among other things, reportable data on trade in derivatives and key demands of the central clearing parties (CCP) relating to, for example, the arrangement of operations and instructions relating to countries outside the EU⁴⁴.

Since derivatives are accentuatedly international instruments, international groups have been established to monitor the regulations. A central group is the Over-the-Counter (OTC) Derivatives Regulators Group (ODRG), which is a joint organ relating to regulations on derivatives for the authorities in Australia, Brazil, the EU, Hong Kong, Ontario, Quebec, Singapore, Switzerland and the U.S. The goals of the forum include to act as a centre of cooperation, to develop and implement standards for the trade in derivatives and clearing, to efficiently and centrally solve joint problems, as well as to coordinate the information flow between central clearing parties, trade centre registers and authorities⁴⁵.

The reports of the ODRG point out the need for authorities to receive sufficient information of the counterparties of derivative financial instruments⁴⁶. The ODRG further aims at unifying practices and regulative demands. The International Organisation of Securities Commissions (IOSCO) is another organ that works with regulations for derivative

41 Dodd-Frank Wall Street Reform and Consumer Protection Act (Pub.L. 111–203, H.R. 4173).

42 Regulation (EU) No 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties and trade repositories.

43 Commission Delegated Regulation (EU) No 148/2013 of Dec 2012, Commission Delegated Regulation (EU) No 149/2013 of Dec 2012, Commission Delegated Regulation (EU) No 150/2013 of Dec 2012, Commission Delegated Regulation (EU) No 151/2013 of Dec 2012, Commission Delegated Regulation (EU) No 152/2013 of Dec 2012, Commission Delegated Regulation (EU) No 153/2013 of Dec 2012, Commission Implementing Regulation (EU) 1247/2012 of Dec 2012, Commission Implementing Regulation (EU) 1248/2012 of Dec 2012, Commission Implementing Regulation (EU) 1249/2012 of Dec 2012, Commission Delegated Regulation (EU) No 1002/2013 of July 2013, Commission Delegated Regulation (EU) No 1003/2013 of July 2013, Commission Delegated Regulation (EU) No 876/2013 of May 2013, Commission Delegated Regulation (EU) No 285/2014 of February 2014 and Commission Delegated Regulation (EU) No 667/2014 of March 2014.

44 ESMA/2013/302 April 2013, ESMA/2013/322 June 2013, ESMA/2013/661 June 2013, ESMA/2013/BS/1159 September 2013, ESMA/2013/1375 October 2013, ESMA/2013/BS/1158 September 2013, ESMA/2013/BS/1160 September 2013, ESMA/2013/1087 August 2013, ESMA/2013/1657 November 2013 and ESMA/2014/299 March 2014.

45 <http://www.otcdf.org/>.

46 Report of the OTC Derivatives Regulators Group on Cross-Border Implementation Issues, Sep 2014, ODRG.

financial instruments. IOSCO is an umbrella organisation for the supervisors of securities markets and aims at coordinating the global execution of regulations for securities markets⁴⁷.

Of the derivative financial instruments, an estimated 95 per cent are OTC derivatives, while the rest are traded in listed derivative instruments⁴⁸. Through regulations, OTC derivatives are brought under the same clearing obligations and practices as listed derivative instruments, which are traded in regulated market places (e.g. stock exchanges). The most common derivative financial instrument are probably interest rate swaps (IRS). Other common derivatives include credit default swaps (CDS), currency derivatives, commodity or raw-material derivatives, options and futures.

Nearly all derivatives can be used either for risk-taking or to reduce one's own investment risk, i.e. for risk management. However, the risk protection is not watertight because, if the other contractual party were to become insolvent or otherwise unable to meet the contractual obligations, the investor would not receive a return for the investment. Hence, an investor who invests largely in derivatives does wisely to closely monitor the counterparties liquidity, solvency and financial standing.

2.7.6 Regulative changes to investments in fixed-income securities

Money market funds

Money market funds are important to all investors in the management of liquid cash assets. Money market funds can be described as "parking lots" for cash assets, in which the return is very low but in which, as a rule, the money retains its day's rate. In the EU area, money market funds are estimated to manage assets (in euros alone) worth approximately one trillion euros⁴⁹.

Money market funds can be used, for example, when an investor plans to make changes in allocations, the market conditions of which have not been realised as yet but which the investor believes to be realised in the near future. Since money market funds are in general very liquid, even large assets can be quickly converted into cash.

Pension funds, sovereign wealth funds (SWF) and the majority of insurance companies are not covered by the central bank system, which is why money market funds are of great importance to these actors. Some of the money market funds have operated with a constant net asset value (CNAV), which means that, regardless of the economic situation, the value of a fund unit has always been viewed as one euro or one dollar. Some funds have operated with a variable net asset value (VNAV), in which case the value of the fund unit depends on the market-specific changes in the fund's assets.

The money market funds caused a systemic risk during the financial crisis in connection with redemption flights; some money market funds risked going insolvent because the funds did not actually have enough liquid assets to pay the investors. Many money market funds

47 www.iosco.org.

48 Regulation on Over-the-Counter Derivatives and Market Infrastructures, Memo/12/232, European Commission, 29 Mar 2012.

49 http://ec.europa.eu/internal_market/investment/money-market-funds/index_en.htm.

have operated with CNAV; in other words, that the value of one share is constantly one euro or one dollar, regardless of the worth of the assets managed by the money market fund. When the market values of securities have weakened, the money market funds have no longer been able to maintain CNAV.

Threats of crisis followed by the redemption flight led to at least the following: the derivative losses of the Community Bankers Money in 1994, the bankruptcy of the investment banks Reserve Primary and Lehman Brothers in 2008, and the insolvency procedures of several South-African money market funds and the African Bank Investments Ltd. in 2014⁵⁰.

The EU Commission has issued a proposal for a regulation on Money Market Funds (the MMF regulation)⁵¹. Also in the U.S.A., regulations on money market funds have been issued⁵². In addition to the MMF regulation, the European Commission has arranged a hearing of all market actors⁵³. The regulations in both the U.S.A. and the EU follow the recommendations of the Financial Stability Board (FSB) and the European Systemic Risk Board (ESRB). The American regulation forces, among other things, certain money market funds that serve institutional clients to use VNAV's or floating net asset values (FNAV).

In addition, the board of a fund can implement either liquidity or redemption fees if the assets that fall due within one week drop to less than 30 per cent of the fund's assets. In addition to the fees, the board of a fund can set redemption gates which would completely prevent the redemption of shares. However, the gates should not be valid for more than 10 days. Limitations through gates are currently employed based on contractual usage, in particular in hedge funds.

The MMF regulation of the Commission allows money market funds to invest the fund assets in money market instruments only, in repurchase agreements (so-called repo trading), in credit institution deposits and financial derivatives. The regulation requires that the money market funds have certain liquidity levels on a daily and weekly basis.

The funds also have to define a weighted average maturity (WAM) of the fund's assets. Money market funds using CNAV should have a capital conservation buffer of at least three per cent. In addition, funds should have procedures for client profiling, as well as internal credit rating and credit rating investigation methods in order to avoid that funds are not solely dependent on external credit rating agencies⁵⁴.

50 Financial Times, Aug 24 2014 and <http://www.futuregrowth.co.za/news/breaking-the-buck-abil-proves-the-money-market-guarantee-is-a-fallacy>

51 Proposal for a Regulation of the European Parliament and of the Council on Money Market Funds, COM(2013) 615 final, Sep 2013.

52 Securities and Exchange Commission, Jul 2014: 17 CFR Parts 230, 239, 270, 274 and 279, Release No. 33-9616, IA-3879; IC-31166; FR-84; File No. S7-03-13, RIN 3235-AK61, Money Market Fund Reform; Amendments to Form PF.

53 Consultation Document, Undertakings for Collective Investment in Transferable Securities (UCITS) Product Rules, Liquidity Management, Depositary, Money Market Funds, Long-term Investments, DG INT MARKT, Jul 2012.

54 Proposal for a Regulation of the European Parliament and of the Council on Money Market Funds, COM(2013) 615 final, Sep 2013.

Government bonds

Government bonds are the most common type of bonds on the capital market. They can be used, among other things, as 'fuel' in the refinancing markets of credit institutions as securities in so-called repurchase agreement trading. Government debentures can also be used as collateral in derivative contracts.

The bonds of the largest issuers have considerably liquid secondary markets (e.g. the U.S.A and Germany). As the interest rate level is very low at the moment, an increasing number of investors have transferred their investments from bonds of developing countries to the riskier bonds of developed countries. Along with this, the debt service costs of developed countries have decreased, but it is difficult to say whether the coupon rates of the bonds of all developed countries correspond to the risk levels of these bonds.

The actual government bond instrument is subject to a change in provisions developed and agreed by the EU Commission's economic and financial committee on 18.11.2011. In these provisions, the content of the so-called collective action clause (CAC) was specified in relation to all government bonds to be issued in the Eurozone⁵⁵. The new model of provisions was included in all government bonds of the Eurozone as of 1.1.2013⁵⁶. Bonds issued prior to this time are not subject to the provision, excluding the restructured bonds of the loan arrangement of the Greek government. These restructured bonds are subject to the legislation of Great Britain rather than that of Greece.

Underlying the new CAC provision are the Greek debt crisis and the decision of the ministries of finance of the EU Member States made on 28.10.2010 to amend the provisions. The idea took form based on the Greek debt arrangement when trying to avoid a situation in the future in which a small minority of creditors could too efficiently resist the rearrangements of debts. The main idea is that changes to debts can be accepted with a lower acceptance rate than earlier, or in other words, that a qualified majority of 66 per cent rather than the previous 75 per cent could be enough to be binding in relation to all debtors.

A change in the CAC provision brings the bonds of the Eurozone closer to the market practices of Great Britain and the United States⁵⁷.

In addition to the Commission, the International Capital Market Association (ICMA) issued new model provisions on 29.8.2014 concerning the CAC provision of government bonds as well the provision containing the *pari passu* principle. In general, the *pari passu* principle means a principle of uniform treatment⁵⁸. The new model proposals aim at clarifying and simplifying the insolvency procedures and reducing the risk of a small minority of debtors completely standing in the way of arrangements that the majority of debtors supports. For example, the prolonging of the process of the most recent Greek debt arrangement caused turbulences in the capital markets which, in turn, contributed to the

55 Economic and Financial Committee, Common Terms of Reference, Feb 2012 and Supplemental Provisions, Feb 2012.

56 EFC Sub-Committee on EU Sovereign Debt Markets – Model Collective Action Clause – Supplemental Explanatory Note, Mar 2012.

57 Report on the implementation of euro area model Collective Action Clauses (CACs), EFC Sub-Committee on EU Sovereign Debt Markets.

58 International Capital Market Association, Standard Aggregated Collective Action Clauses ("CACs") for the Terms and Conditions of Sovereign Notes, 29 Aug 2014 sekä Standard Pari Passu Provision for the Terms and Conditions of Sovereign Notes, 29 Aug 2014.

prolonging of the process. The first state to include the new model provisions of the ICMA in the new bonds issued was the state of Kazakhstan⁵⁹.

Development of corporate sector credit instruments

In several European countries, new credit instruments have been developed to revive financing and to make the financial sources more versatile. The financing of the SME sector has been addressed in, among other places, the Green Paper published in 2013 by the European Commission on long-term financing⁶⁰. In addition, the OECD project includes the same questions approached from slightly different angles⁶¹. The Commission has proposed, for example, that bonds of the SME sector be included in the Member States' national regulation. SMEs should have their own, lighter form of regulated bonds, which they could issue either at their own market place or, for instance, on the Nasdaq OMX First North list⁶².

Another idea favoured by the Commission is a separate credit rating service for SMEs, which might increase the interest of major investors in SME financing. The Green Paper on long-term financing published by the European Commission presents a uniform credit rating or a so-called rating system that covers all of the Eurozone. With the help of the rating system, banks and investors could form a clear picture of the financial status of the SME and compare the target with similar corporations.

Currently, credit institutions use internal, very sophisticated credit rating processes, but there is no generally uniform system on an EU level. However, such a system has been planned already in several EU Member States.

2.7.7 Commission's and OECD's bill to support long-term investing

In the Commission's Green Paper, ways in which to increase long-term financing and investing in the EU area are charted⁶³. The Green Paper addresses comprehensively the different sections of financing and presents the following initiatives:

- creating a special EU-wide savings account for consumers that focuses on long-term investments
- lowering the capital demands/stress levels of certain investment instruments of the Solvency II Directive
- assessing the solvency requirements for banks in relation to long-term lending (CRDIV and CRR)
- coordinating public development banks and guarantee institutions (e.g. export subsidies and the European Investment Bank)

59 See e.g. <http://www.emergingmarkets.org/Article/3388638/Kazakh-CAC-adoption-heralds-new-era-for-sovereigndebt-restructuring.html>

60 Green Paper – Long-Term Financing of the European Economy, Mar 2013, COM(2013) 150 final.

61 Institutional Investors and Long-term Investment, OECD, 2013.

62 <http://www.nasdaqomxnordic.com>.

63 Green Paper – Long-Term Financing of the European Economy, Mar 2013, COM(2013) 150 final.

- assessing the regulations governing securitisation, in particular in terms of stabilisation, real estate and infrastructure targets, and
- creating a credit rating system for SMEs⁶⁴.

Similar to the Commission, the OECD has charted the possibilities to increase long-term instruments. The OECD has launched the project "Institutional Investors and Long-term Investment", which charts new possible investment instruments to support and increase long-term investment among institutional investors.

As part of this project, the G20 countries and the OECD have formulated central principles for supporting long-term investment. In these principles, emphasis is put on, among other things, the creation of the correct circumstances for long-term investment markets, the utilising of long-term savings in investments, the readiness of institutional investors to make long-term investments and the construction of a suitable taxation frame for long-term investments. The OECD has also produced ample comparative material of various countries' propositions, with which long-term investments have been supported. So far, institutional investors have allocated less than 1 per cent of their total allocation to investments in infrastructure⁶⁵. According to the OECD, institutional investors managed assets worth approximately USD 65 trillion at year-end 2009. Institutional investors refer to both pension funds and separate sovereign wealth funds (SWF).

The capital managed by long-term investors can be seen as patient capital or as socially engaging capital when invested in, for example, social infrastructure projects. Therefore, the OECD encourages governments to develop the administrative regulations for institutional investors to ensure a sufficient knowhow of long-term investments. In addition, governments should be encouraged to reduce short-term risk-taking.

According to the OECD and the EU Commission, investments in infrastructure are model examples of long-term investments. Such investments increased in the 1980s and the 1990s due to the privatisation of government-owned energy, traffic and data networks⁶⁶. In general, investments into these have been made through unlisted rather than listed companies⁶⁷. Listed companies are more commonly used in real estate investment (in particular, through so-called real estate investment trusts [REITs]).

2.8 Possible regulatory effects on pension fund investments

2.8.1 Solvency II and IORP Directives

The Solvency II Directive is not applied to Finnish statutory earnings-related pension insurance. Similarly, the IORP Directive is applied to Finnish earnings-related pension

⁶⁴ Communication from the Commission to the European Parliament and the Council on Long-Term Financing of the European Economy, Mar 2014, COM(2014) 168 final.

⁶⁵ Institutional Investors and Long-Term Investment – Project Report, May 2014, OECD.

⁶⁶ The Role of Banks, Equity Markets and Institutional Investors in Long-Term Financing for Growth and Development, Report for G20 Leaders, OECD, Feb 2013.

⁶⁷ Pooling of Institutional Investor Capital – Selected Case Studies in Unlisted Equity Infrastructure, Apr 2014, G20/OECD Task Force.

insurers only to a limited degree (the supplementary pension component of both industry-wide and company pension funds). Therefore, the direct effects are minor. The indirect effects may arise through investment markets if the share of instruments change in the insurers' allocations. The solvency regulations of Solvency II have increased the relative weight of the allocation of loan-type investments in the investment operations of life and non-life insurance companies in the EU area. If the solvency regulations of IORP would be adapted in the future on the same basis, the share of loan-type investments in relation to investments in equities could increase in the supplementary pension funds in the EU area. Nevertheless, it is still too early to make any precise predictions on this issue.

2.8.2 Changes to regulations on banking

The precise effects of banking regulations for pension investors are difficult to assess, but the effects may be visible in, among other things, the liquidity of securities. When banks are likely to reduce the so-called market making operations in the future, the exchange of securities may not remain as vivid as it is today. Part of the market making operations may be transferred to other actors, such as those operating in the shadow banking sector, but it is impossible to say to what degree this would happen. In addition, due to the transitional provisions, the transitional amendments have not yet come into full effect. Traditional loaning may also be transferred to the shadow banking sector. In the future, actors within the insurance sector may participate in lending since lending may sometimes be a type of investment; the same object can be invested in either by buying shares or by granting a loan to the target actor.

The *modus operandi* and products of the capital markets may be renewed, which may weaken the negative effects or introduce new instruments for investors. New banking investment instruments, so-called contingent capital instruments⁶⁸, have already been introduced on the markets. Typically, if the bank's solvency level falls below a certain limit, the loan is automatically converted into equities, which will strengthen the bank's capital structure. Coco bonds have also been issued on the markets, the allocations of which are annulled in a similar situation. The optimal risk-profit pricing of new instruments is a short-term challenge for investors.

2.8.3 MIFID – regulating financial markets

Although MIFID II mainly affects the providers of investment services, the investors will also be affected by the directive. Making an exact assessment of the effects is difficult because of the lack of detailed regulations. As for service providers, the MIFID II sets partly unnecessarily detailed requirements, and we might ask whether there is a risk of overregulation in the EU area? Overregulation might hinder new actors from entering the field and prevent competition between service producers. In addition, actors may transfer to areas with lighter regulation.

68 CoCos: A primer, Bank for International Settlements, Quarterly Review 2013, Sep 2013.

Long term, this type of development – a centralisation of fields and a possible reduction in competition – is not favourable to investors. It is also to be expected that, in particular for large investors, the reporting obligations will become increasingly comprehensive; the MIFID II package includes some similar operational obligations also for investors.

2.8.4 Regulation on short selling

In the Commission's own consequence assessment it has been estimated that the regulation on short selling has increased the transparency of the markets and improved the flow of the liquidation procedures⁶⁹. The report finds no harmful effects of the provisions of the regulation. Since the regulation has been in force for only two years when the report was compiled, the Commission finds that the effects of the regulation should be monitored for at least another three years before changes to the regulation are considered.

2.8.5 Amendments to regulations for private equity and hedge funds

The AIFMD affects the operations of fund management companies more than that of investors. In the future, companies have to report extensively of the operations and management of the funds to the authorities. In addition, the authorities have the mandate to intervene regarding the use of leverage in the fund. This is a major change in the private equity and hedge fund markets, because previously, these actors have been completely external to this type of authority mandates.

The consequences of the AIFMD for institutional investors are perhaps most directly evident in the regulations concerning marketing and third countries, i.e. countries external to the EU area. A fund management company that is external to the EU area has to either apply for a permission from the authorities of some Member States to market its funds or register itself as a licensed actor in the EU area through, for example, a branch office. One of the requirements to receiving a marketing permission is that the state in which the fund is located in and the EU Member states have an agreement concerning the exchange of taxation information.

Another issue from the investors' point of view is that that funds' fees will rise due to the increasing regulation. After the financial crisis, the management fees on the markets have become slightly more moderate as fund-raising and the establishment of funds has become more difficult. Since the regulations provide several preconditions to arrange the operations and make it obligatory to use a custodian, it is possible that the operating costs will grow and hence also the management fees paid by investors.

The EuSEF, EuVECA and ELTIF projects will probably not have a direct impact on the investment operations of the pension funds. For fund management companies, however, they will offer new instruments for the selection of the funds' form of operation. Pension investors may therefore come across these types of funds in the marketing of fund management companies. However, the prerequisites set for new types of funds are partly

69 Report from the Commission to the European Parliament and the Council on the evaluation of the Regulation (EU) No 236/2012 on short selling and certain aspects of credit default swaps, COM(2013) 885 final, Dec 2013.

complex and may excessively limit the operations of fund management companies and thus reduce their popularity.

2.8.6 Changes in regulations for derivatives

Since a derivative contract can be made by telephone or e-mail with practically any trading centre and a counterparty located anywhere in the world, the relocation of the market operator is one of the greatest risks. National companies are generally listed in their 'home' stock exchange, and changing the place of listing and moving the headquarters is a massive operation. Shifting a trading platform is much easier. For this reason, the regulation may make it easier to open up new trading centres in, for example, Singapore or Hong Kong rather than in the EU area or the United States. This effect is mitigated, however, by the fact that the majority of the world's investment assets and major banks are located in Europe and the U.S. Nevertheless, when looking at the growth of the savings and pension funds of developing households, the situation may change significantly already in the 2020s.

In the future, pension investors may deal more frequently with actors from areas with different regulations. The regulatory arbitrage of such actors may, however, be restrained by global cooperation in order to unify regulation. It is likely, though, that there will be a division midterm, before regulation is made globally whole and unified.

2.8.7 Regulative changes to investments in fixed-income securities

Government bonds have become an important fixed-income security in investors' allocations. However, pension investors have not usually been major investors in the most risk-prone government bonds such as those which have led to the above-mentioned bankruptcy proceedings. Regulatory reforms concerning problematic situations may, however, bring about legal security and predictability to the government bond markets which, in the long run, will be advantageous also to investors.

The low interest level has made fixed-income instruments less attractive. High-risk and high-profit business loans have become increasingly popular fixed-income instruments. Therefore it is probably a good thing that the regulation concerning instrument types is reformed in order to increase transparency and liquidity. If protracted, the low interest level will make it more difficult to analyse the optimal risk-return ratio, particularly regarding fixed-income instruments.

2.8.8 Regulative bills for long-term investment

As a rule, many of the long-term investments in infrastructure are well suited for pension investors. However, as an investment class, investments in infrastructure and real estate are a heterogeneous group and individual investments must always be carefully analysed. In addition, inflation protection is an important element as the return on investments in infrastructure and real estate tend to be moderate. Finnish pension investors have traditionally invested in foreign real estate and infrastructure indirectly through funds, but in the future,

we are likely to witness an increasing amount of direct investments, particularly in other Nordic countries.

Investments into infrastructure, real estate and land are also tied to legislation. For example, if a country does not implement road tolls, it is impossible to make an investment into such an infrastructure in that country. The legislation concerning the ownership of real estate and land is also often based on history and tradition and varies more between countries than, for example, IT or media legislation. However, if international operators, such as the OECD and the EU Commission, compile functional regulation models for international investments in infrastructure and real estate, we can assume that these instruments will grow in popularity of pension investors' allocations.

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3 Comparison of risk and return of investment operations in selected countries

Pension asset investments are charted using the return per operator and operator groups and the rough allocations by investment type and region. We have selected to examine central pension investors located in the reviewed countries (Denmark, Finland, Great Britain, the Netherlands, Norway and Sweden). When selecting the operators, we aimed at finding the pension investors who managed a considerable amount of pension assets. We used the top 1,000 European Pension Fund list of Investment Pensions Europe (IPE)⁷⁰, through which European pension investors are ranked based on the size of the managed assets. In addition to the large amount of assets, the choice of actors was affected by the availability of comparable data⁷¹. The comparison is done for the available data in intervals of 5 and 10 years.

3.1 General data on earnings-related pension systems and example actors of the reviewed countries

The reviewed countries are alike in that earnings-related pension systems are common in these countries and the systems are very comprehensive. Through collective agreements, quasi-mandatory earnings-related pension systems can be found in the Netherlands, Sweden and Denmark. In Norway, occupational pensions were made mandatory in 2006. In Britain, they are voluntary, but due to, among other things, the relatively low level of the statutory pension system, they are reasonably common, covering approximately half of the wage earners.

The Finnish earnings-related pension is part of the statutory social security, but some features in our earnings-related pension system are similar to those of occupational pensions. The most essential of these features are the following:

- no pension ceiling
- the central role of the labour market organisations
- the system is decentralised and, for the most part, managed under civil law
- competition between the various actors, and
- partly funded system.

⁷⁰ Investment&Pensions Europe, September 2014: S&P Capital IQ's MMD TOP 1000 Pension Funds 2014.

⁷¹ The data has been presented mainly for the same period and with the same content. Data deviating from the main rule has been used for the following:

Finnish public-sector pension insurers: No allocation data available for the year 1999. The allocation data for the past 15 years is thus for the past 14 years, from 2000 to 2013.

USS: The allocation data is always per the end of March of the following year. For example, the allocation data for 2013 is per 31 march 2014. The regional distribution of the allocations is based on the data of listed securities.

BT: All data for 2013 is per the end of June 2013. The data for the other years is per the end of each year. The regional distribution of the allocations is based on the data of listed securities.

Industriens Pension: The regional distribution of the investments are based on the data on all investments in the period from 2006 to 2010 and the data of equities in the period from 2011 to 2013.

Compared to the other countries under review, the Finnish earnings-related pension can be equalled to both statutory and occupational pension provision and meets the purpose of both. In an international comparison, this is evident in the relatively low number of occupational pensions in Finland.

In the countries under review, the occupational pensions are generally fully funded. The relatively high funding rate in relation to the economy also speaks of their significance for each country's overall pension system. Of the countries under review, Great Britain, the Netherlands and Denmark have accumulated large pension funds with assets that exceed the countries' GDP. In Sweden, the occupational pension assets amounted to approximately 60 per cent and in Norway to 50 per cent of GDP.

Of the reviewed countries, Finland, Sweden, Norway and Denmark (ATP) fund statutory pensions in advance. In Finland, the assets of the statutory earnings-related pension amount to 80 per cent of GDP. In Sweden, the equivalent figure is 30 per cent, in Norway and ample 170 per cent and in Denmark slightly less than 40 per cent. In Great Britain and the Netherlands, statutory pensions are pay-as-you-go systems and funded either with tax revenues or insurance contributions.

Looking at the structure of the pension systems, we can note that the occupational pensions in the countries under review have shifted increasingly from defined benefit pension systems (DB) to defined contribution pension systems (DC). In Norway, nearly all new occupational pension systems are DC systems. The same applies to nearly all private-sector occupational pension systems in Great Britain and Denmark. Sweden forms no exception, with most occupational pension systems being DC systems. The statutory earnings-related pension systems in Norway and Sweden are notional defined contribution systems (NDC).

Of the reviewed countries, the DB systems have retained their position only in the Netherlands and in Finland, although both include features of DC systems (in Finland e.g. the life expectancy coefficient, and in the Netherlands, the effect of the investment risk through indexation). In the Netherlands, the earnings-related pension provision is fully dependent on occupational pensions, while the earnings-related system in Finland is statutory.

Thus, investment operations, along with investment regulations, play a significant role in each country under review in terms of the overall pension provision. If the return on investments is low or even negative, the effect on the pension level of an individual pensioner in DC systems is considerable. In DB systems, the result is an increase in the pension contribution level.

From the point of view of investment regulations, the structure of the system makes a difference: DC systems are fully funded regardless of the investment returns, while in DB systems, the monitoring of the solvency ratio is closely linked to investment regulation. For example, when the solvency ratio drops below 100 per cent in the DB systems in the Netherlands, Denmark, Sweden and Great Britain, the pension provider has to make changes to its investment allocations or the pension contribution level. In DC systems, the supervision and regulation focus mainly on an adequate level of the employers' and employees' pension contributions and the composition of the investment portfolio of the insured.

The management of occupational pensions is decentralised to several actors. In the Netherlands, the industry-specific funds hold a significant position and a clear majority of

the active members are members of such funds. Industry-wide pension funds have long traditions. For example, the largest fund, the pension fund of public-sector employees, the ABP, was established already in 1836. In Great Britain, in an Anglo-American manner, occupational pensions have been arranged through company-specific funds, with private-sector systems numbering tens of thousands. However, the membership volumes of new workplace pension scheme providers (e.g. NEST) are rapidly growing, and in the future, these general workplace funds may become the most significant form of pension provision.

In addition to company pension funds and industry-wide pension funds, life insurance companies hold a considerable part of the occupational pension markets in the countries under review. In the Nordic countries, occupational pensions have traditionally been arranged in life insurance companies. For example, in Denmark, Norway and Sweden, the life insurance companies' allocation of the total premium income of occupational pensions is 75–80 per cent. Table 3.1 presents a general overview of the central features of the occupational pensions of the reviewed countries.

Table 3.1.

Occupational pensions and pension assets in countries under review.

	The Netherlands	Great Britain	Norway	Sweden	Denmark	Finland*
Coverage of labour market pensions, %	90	50	90	90	90	100
Membership of occupational pensions	Collective agreements	Employer and union contracts	Act	Collective agreements	Collective agreements	Act
Occupational pensions % of GDP	160	135	45	57 +17 (premium pension)	137+36 (ATP)	52
Buffer funds % of GDP	-	-	173	31	-	28
DC or DB system	DB	DC/DB	DC/DB	DC/DB	DC, guaranteed return	DB
Supervision	Central bank (De Nederlandsche Bank–DNB)	Pension authority (The Pensions Regulator)	Financial supervisory authority (Finans-tilsynet)	Financial supervisory authority (Finansinspektion)	Financial supervisory authority (Finans-tilsynet)	Financial supervisory authority
No of pension investors	ca 400	ca 50 000	ca 100	ca 270	75	35

* The Finnish earnings-related pension has been classified as an occupational pension in the table.

From each country, we have selected 1–3 actors, who manage considerably large assets (see Table 3.2). As for the Finnish pension insurers and the Swedish AP buffer funds, the data is presented per groups of actors rather than per individual actors. In addition to the actor

or group specific data, we have in places included average data of OECD countries for comparison⁷².

Finland is represented by two different groups in the comparison: private-sector pension insurers and public-sector pension institutions, the State Pension Fund and Kevo.⁷³ A central difference between these two groups is that the national solvency regulations apply only to private-sector pension insurers. Private-sector pension funds are not subject to these regulations, but they have their own actor-specific limitations. Along with private-sector pension insurers, they have to make sure that their investments are secure, profitable, diversified and liquid. In addition, the Ministry of Finance issues instructions and decrees for the State Pension Fund. According to the regulations (13.11.2007) valid at the time of making this survey, the State Pension Fund had to abide by the following restrictions:

- Investments in fixed-income securities must amount to at least 45 per cent.
- Investments in equities may not exceed 45 per cent.
- Other investments may not exceed 12 per cent of the value of the fund.

Table 3.2.

*Selected actors and assets.**

	System	Assets per 31.12.2013
The Netherlands		
ABP	DB, fully funded	€bn 325.2
PFZW	DB, fully funded	€bn 137.3
Great Britain		
BT	DB, fully funded	€bn 46.6 (GDP €bn 39.6)
USS	DB, fully funded	€bn 50.3 (GDP €bn 42.7)
Norway		
GPF	Buffer fund	€bn 645.3 (NOKbn 5 038.0)
Sweden		
AP1–AP4 and AP6	Buffer fund for old-age pensions	€bn 122.2 mrd (SEKbn 1 057.6)
Alecta	DB/DC, fully funded	€bn 69.7 (SEKbn 602.8)
AMF	DC, fully funded	€bn 42.1 (SEKbn 363.8)
Finland		
Public-sector earnings-related pensions	Buffer fund	€bn 56.9
Private-sector earnings-related pensions	DB, partially funded	€bn 105.2
Denmark		
ATP	DC, fully funded	€bn 79.4 (DKKbn 592.3)
Industriens Pension	DC, fully funded	€bn 15.6 (DKKbn 116.1)

* Amounts in euros have been calculated using the average exchange rates for 2013 of the Bank of Finland.

72 Data: OECD, Pension Markets in Focus. <http://www.oecd.org/finance/private-pensions/pensionmarketsinfocus.htm>.

73 In January 2014, earnings-related pensions were handled by 32 different pension institutions. Private-sector pension insurance was managed by 6 earnings-related pension insurance companies, 14 company pension funds and 6 industry-wide pension funds, as well by the Farmers' Social Insurance Institution Mela and the Seafarer's Pensions Fund.

The Swedish AP funds are a combination of the data of five buffer funds (AP1–AP4 and AP6) of the statutory earnings-related pension system. The funds are legally sovereign with their own investment and ownership policies and risk management plans. They are not under the direct steering of the Swedish government or Parliament, but they are under obligation to compile their annual financial reports to the country's government. The investments are steered in acts that define buffer funds. These acts include quantitative investment limitations and a low risk level requirement.⁷⁴ For example, at least 30 per cent of the capital must be invested in bonds with a low credit and liquidity risk. The government (SOU 2012:53; Skr 2013/14:13039) and a pension group (Pensionsgruppen) consisting of representatives from the different political parties have suggested that the current regulation be replaced by the Prudent Persons Principle and that the number of funds be reduced from the current five to three in 2016⁷⁵.

The comparison of the life insurance companies handling Swedish occupational pensions includes the two largest and oldest private-sector actors: Alecta and AMF Pension. Alecta is also the default provider within the ITP scheme for white-collar employees and AMF within SAF-LO for blue-collar employees, unless an employee actively makes an investment decision and selects another company to manage his or her occupational pension capital.

In the Netherlands, the largest industry-wide pension funds, the ABP and the PFZW, cover an ample third of all persons insured for an occupational pension. Measured in pension assets, they manage nearly half of the total Dutch pension assets. Investment regulation is governed mainly by the Prudent Person Principle rather than by quantitative regulations. The Prudent Person Principle regulates through qualitative principles or criteria. An essential feature is also the assessment and monitoring of risk-based solvency. The principles and rules of regulation have been entered into the financial assessment framework (FTK), which sets the required solvency ratio above the minimum requirement (105%). Under the new FTK, which took effect at the beginning of 2015, the required funding has increased by five percentage points to approximately 110 per cent.

The Norwegian GPFG is a buffer fund that accumulates a considerable part of its assets from oil and gas production income. No pension contributions are steered into the fund, nor is it tied down by the solvency regulations that aim at covering the pension liabilities. The international GPFG is managed by the Central Bank of Norway, and its operations are legislated in a separate act, the Government Pension Fund Act. The fund is part of the state budget and the fund's return is used annually also to cover the state's budget deficit. The fund invests all its assets abroad. The investment operations of the fund are governed by one aim: to achieve the highest possible return at a moderate risk level. The Ministry of Finance has laid down general guidelines for the GPFG. These guidelines set a target asset allocation of 60 per cent in equities, 35–40 per cent in fixed-income securities and up to five per cent in real estate (Norges Bank⁷⁶).

74 Lag (2000:192) om allmänna pensionsfonder (AP-fonder). <http://www.notisum.se/rnp/sls/lag/20000192.htm>

75 Pensionsgruppens förslag till förändringar av pensionsöverenskommelsen. 12.3.2014. [http://www.apfond6.se/Global/PDF%20\(som%20l%c3%a4nkas%20till\)/%c3%96verenskommelse%20om%20vissa%20justeringar%20i%20pensions%c3%b6verenskommelsen.pdf](http://www.apfond6.se/Global/PDF%20(som%20l%c3%a4nkas%20till)/%c3%96verenskommelse%20om%20vissa%20justeringar%20i%20pensions%c3%b6verenskommelsen.pdf)

76 <http://www.nbim.no/en/>

The management of the statutory earnings-related pension system (ATP) is handled by a sovereign ATP pension provider governed by the labour market organisations. The investments of the ATP are divided into two completely separate investment portfolios which are different both functionally and in terms of target-orientation. The aim of the first one is to protect the pension liabilities that arise from the guaranteed return promise from interest risks (hedge portfolio). As such, pension provider seeks investment returns and growth in the solvency margin through a separate investment portfolio, the aim of which is to maintain the purchasing power of pensions in the long run. Solvency II does not apply to the ATP pension system, which has its own risk management model that is comparable to the requirements set by Solvency II. ATP reports its solvency to the Financial Supervisory Authority in line with the requirements of Solvency II. The investment operations of an ATP institution are regulated in the ATP Act.

In Denmark, occupational pensions are mainly handled by life insurance companies. Industriens Pension administrates the pensions of the Confederation of Danish Industries (DI) and the Central Organisation of Industrial Employees and covers approximately 400,000 employees. The decision of the Central Organisation of Industrial Employees at the beginning of the 1990s to arrange occupational pensions for its members was crucial for the overall development of the occupational pension schemes.

In Denmark, it is typical for pension arrangements to have a set guaranteed return, which means that the pension is secured through a technical rate of interest or some other contract rate. The solvency regulations apply to company pension funds and industry-wide pension funds which are committed to some kind of pension promise. In 2011, some of the pension insurers, including Industriens Pension, abandoned the guarantee returns as part of the preparations for the Solvency II regulation which, among other obligations, increases the capital requirements. Due to the decline in the interest rate in recent years, it has become difficult to accommodate the guaranteed high, up to 4.5 per cent, returns. The Danish FSA supervises the solvency of the Danish occupational pension system through stress tests, or the so-called traffic light model, which was implemented in 2011.

We have reviewed two large British pension funds that offer DB pensions: the Universities Superannuation Scheme (USS), a pension fund that covers the higher-education sector in the UK, and the BT Pension Scheme, which is the UK's largest corporate defined benefit (DB) pension scheme. However, the BT Pension Scheme has been closed to new members already from the beginning of the 2000s. Many other private-sector DB schemes have faced the same fate in Britain.

3.2 Allocations per investment type

The allocations of the objects under review have been divided into two groups: investments in fixed-income securities and other investments. Investments in fixed-income securities include, among others, investments in cash, money markets, loans and bonds.

Other investments include investments in listed and unlisted equities, capital investments, hedge funds, real estate, commodities and infrastructure. Of these, listed equities generally form the largest group. This rough division is used to highlight the differences in the risk

levels of portfolios. In smaller-risk portfolios, the share of investments in fixed-income securities is larger. Correspondingly, in portfolios with larger risks, the share of other types of investments is larger.

The group of investments in fixed-income securities is not homogeneous but, in terms of its risk profile, it is very different for different investors depending on the selected investment objects. One investor may put more emphasis on corporate loans with good credit qualities while another may emphasise government bonds in developing markets and a third one corporate loans with credit ratings below the investment category. If the fixed income allocations of a reviewed object have some such clear emphasis, which can be assumed to have a significant effect on the return, we have mentioned the emphasis.

In our review, the most typical allocation of pension assets was a combination in which investments in fixed-income securities accounted for 40–60 per cent (mostly closer to 40) and the rest consisted of other investments (mainly listed shares) (Figures 3.1 and 3.2).

A few actors under review deviated from this 40/60 allocation. The Danish ATP represents an allocation in which 80 per cent are investments in fixed-income securities and 20 per cent other investments. The main reason for the noticeably high focus on investments in fixed-income securities is the fund's investment strategy, in which the protection of pension liabilities plays a considerable role. As for the ATP, the overall allocation consists of a combination of a so-called investment portfolio and a hedge portfolio. In addition to the hedging strategy, the allocations of the ATP strongly focus on, among other things, corporate loans and inflation-linked instruments. Another extreme represented in the review is that of the USS of Great Britain, whose allocation in investments in fixed-income securities has been only approximately 20 per cent in the long run while other investments (equities) have accounted for 80 per cent. However, in recent years, the fixed income allocation has risen to almost 30 per cent.

Figure 3.1.

Share of investments in fixed-income securities 2009–2013, %.

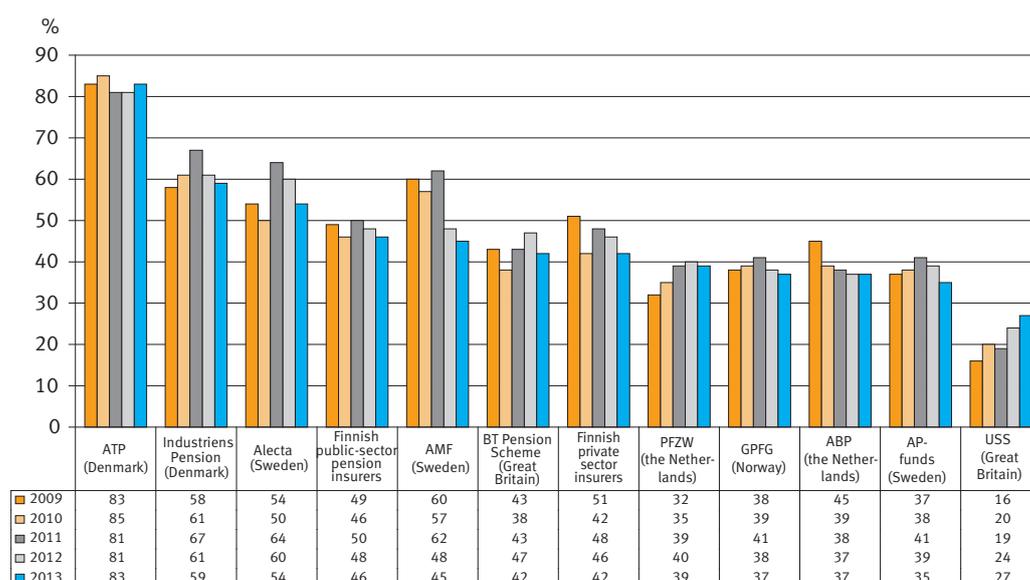
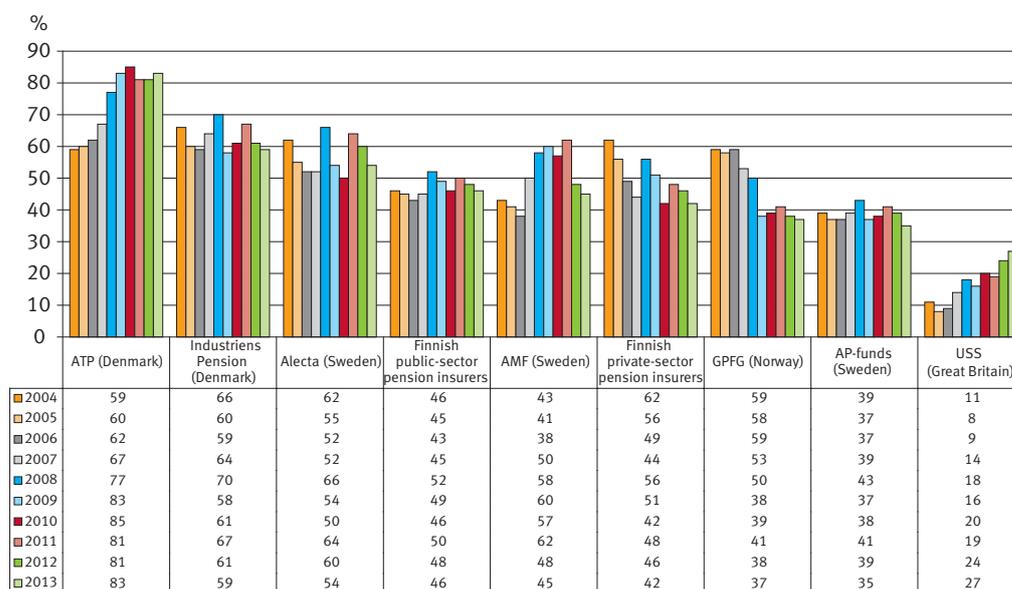


Figure 3.2.

Share of investments in fixed-income securities of all investments 2004–2013, %.



There have been a few different paths in the changes of fixed income allocations in the last ten years (Figure 3.2). These allocations have increased with the reviewed extremes in terms of allocation: the ATP, which already focuses heavily on fixed-income securities, and the USS, which places a small emphasis on investments in fixed-income securities. The fixed income allocations have been reduced in the last ten years among Finnish private-sector pension insurers and the Norwegian GPF. The fixed income allocations have remained nearly unchanged in the Finnish and Swedish buffer funds, the Finnish public-sector pension insurers and the Swedish AP funds. These changes and non-changes that have taken place during the last ten years appear to be trends and aimed-for long-term goals.

Another trend is represented by actors (the Swedish AMF and Alecta and the Danish Industriens Pension), whose allocations change along with changes in circumstances. In the crisis years, the share of the fixed income allocation increases and, correspondingly, in a more favourable market situation, it decreases. When data on the purchase and selling of investments is lacking, we cannot say which share of the change in allocation is due to the market situation (in times of crises, the market value and share of investments in fixed-income securities rise while the market value and share of more risk-prone investments decrease) and which is a result of an active change in allocations to less risky investments by purchasing more investments in fixed-income securities and by selling more risk-prone investments. What we can observe from the data, however, is that the changes in allocation of the AMF, Alecta and Industriens Pension are not always going in the same direction. This would indicate that each actor reacts to the market circumstances and their expected changes according to their own view and at their own time.

The effect of changing market conditions is also evident in the allocations of Finnish private-sector pension insurers. As stated before, the private-sector fixed income allocation has been reduced. During weak economic situations, the share of investments in fixed-

income securities has increased. As the situation has improved, the share of investments in fixed-income securities has been reduced.

Due to the low interest rates in the last few years, we observed a reduction in the fixed income allocation in nearly all actors under review (see Figure 3.1). Based on the data it is impossible to establish, however, how much of the change in allocation was a result of active measures and how much was caused by the market situation. It is likely that part of the reduction in the fixed income allocation is due to the selling of such investments. The released assets have then been invested into other instruments. With the selling of interest-bearing papers, the actors have prepared themselves for the time when the interest levels will rise, at which time the return of these instruments will be in the red due to the reduced price of investments in fixed-income securities. On the other hand, along with the rise of the equity markets, the market values of equity investments and other riskier instruments have risen, which has led to an increase of the share of these investments and a decrease of investments in fixed-income securities in investment portfolios. Although the share of investments in fixed-income securities has mainly been reduced in the last years, it has grown among those representing the extremes: the ATP and the USS.

3.3 Regional distribution of investments

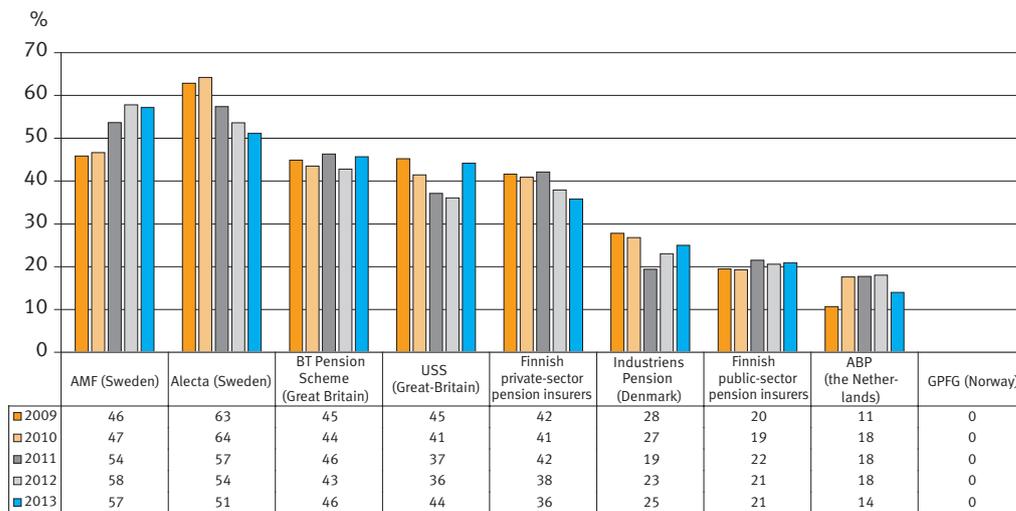
We have examined the regional investment operations of the actors under review by dividing the investments into two groups: domestic and foreign investments. The share of domestic investments varies greatly from one actor to another (see Figure 3.3). The Norwegian GPFG is at one end of the scale, investing all its assets outside Norway. Also the Dutch (10–20%), the Finnish public-sector pension insurers (ca. 20%) and the Danish (20–30%) have only minor domestic investments. At the other end of the scale, with a considerable share of domestic investments, are the Swedish (50–60%), the British (40–50%) and the Finnish private-sector pension insurers (30–40%).⁷⁷

In the last ten years, there have been some changes in the share of domestic investments (see Figure 3.4). As for two Swedish actors, the domestic share has dropped from 50–70 per cent to 50–60 per cent. The domestic share of AMF's investment portfolio dropped before the beginning of the financial crisis and has thereafter risen to the levels of some ten years ago. The share of domestic investments of Alecta has decreased, however, by 20 per cent in the last decade. The share of domestic investments of the British USS has also been reduced: from 50 towards 40 per cent, occasionally even lower. Along with the AMF, the development of the domestic investments of Finnish private-sector pension insurers reflects the financial crisis: before the crisis, the share of domestic investments was on the wane, but as a result of the crisis, it grew. In the last few years, the share of domestic investments has subsided again. In the last ten years, the share has been between 30 and 40 per cent. The share of domestic investments of Finnish public-sector investors (ca 20%) and the Norwegian GPFG (0%) has remained unchanged in the last ten years.

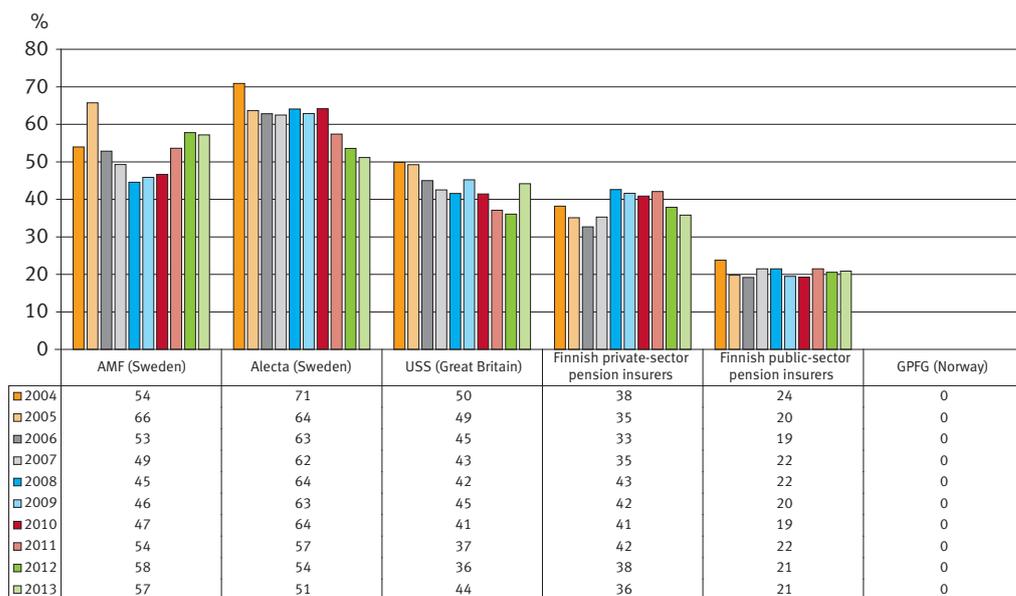
⁷⁷ We found no comparable data of the regional allocation of the investments of the following actors: the ATP, PFZW and the AP funds.

Figure 3.3.

Share of domestic investments 2009–2013, %.

**Figure 3.4.**

Share of domestic investments 2009–2013, %.



3.4 The return and their ratio to the investment allocations and regional distribution

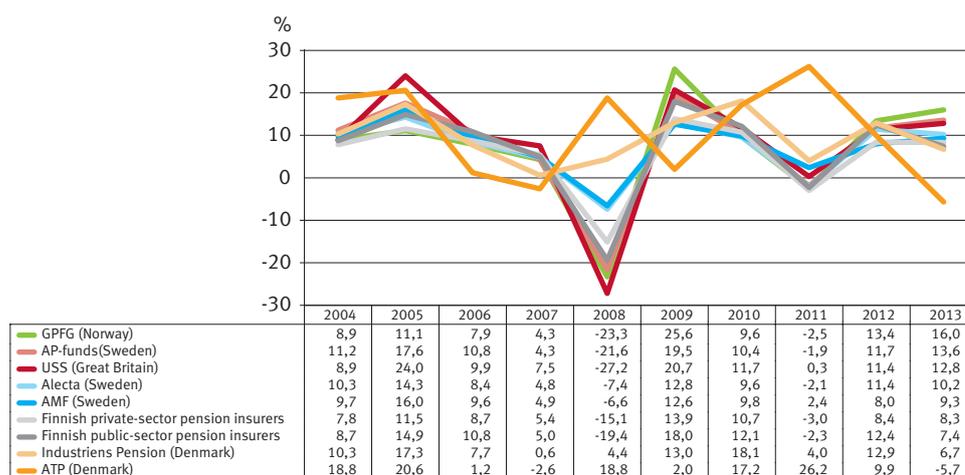
By examining the nominal annual return⁷⁸, we note that the returns of the different pension investors follow very similar paths (see Figure 3.5) which goes hand in hand with the development of the investment markets. A comparison with OECD countries shows that

⁷⁸ The nominal return of each actor is in the domestic currency of the said actor. The nature of the investment operations and the return are affected by the fact that the pension liabilities and the paid pensions are in the domestic currency.

the reviewed actors and groups of actors are among the most successful pension investors. Their average annual real return⁷⁹ is 1.1–5.7 percentage points above the average return (2.3%) of private pension assets of the OECD countries in the last ten years⁸⁰ (see Figure 3.6). This better-than-average performance of the OECD countries can partly be explained by the fact that we selected some of the largest pension investors in the reviewed countries for our survey.

Figure 3.5.

Nominal, annual net return 2004–2013, %.



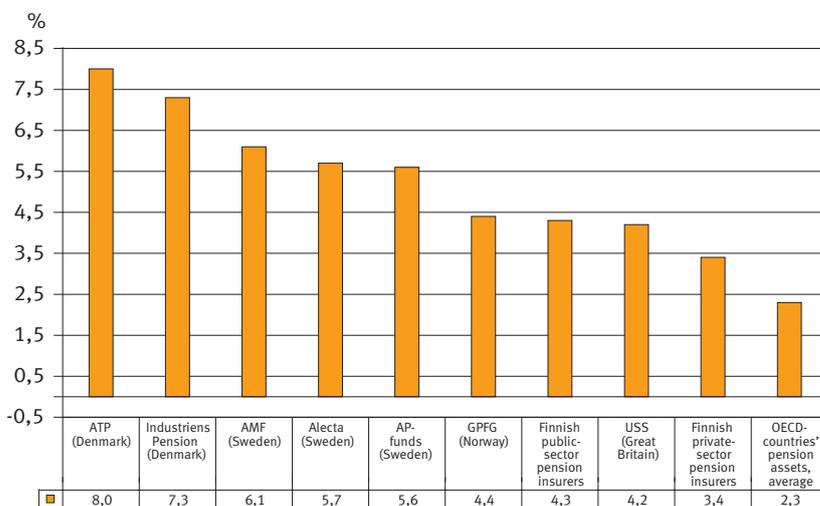
The return history of the Danish actors is more countercyclical than that of the others. The range of return is also among the narrowest of the reviewed countries. However, what is of most significance is that the Danish actors have managed to keep the centre of the range at +10 per cent in the long run (7, 10 and 15 years). The annual return ranges around this centre by +/- 15 percentage points. The negative return has ranged between 0 and approximately -5 per cent. The positive return has ranged between 0 and approximately +25 per cent. This success is also evident in the high long-term average annual real return (see Figure 3.6).

79 The long-term average annual return has been calculated as a geometrical average time-weighted return (TWR) of the total annual return. As for the actors, we have used the total annual return reported by the actors themselves. As for the Finnish groups of insurers, we have used the groups' annual, nominal average returns, which have been formed of the capital-weighted total annual return of the actors who belong to the group. The data stems from the database of The Finnish Pension Alliance TELA. As for the Swedish AP funds, the group-specific annual average returns reported by the Swedish Pensions Agency have been used. (When calculating the real return, we have used the data of the OECD database on the development of the consumer prices (consumer prices – all items index) (<http://stats.oecd.org/index.aspx?queryid=22519#>). For each year, we have used the index point of December so that the change in consumer prices is for the same period (the calendar year) as the return.

80 The average annual real return of the OECD countries for 2013 was not available. Therefore we have presented the average for the OECD countries using the return of the period 2003–2012, and for the other objects of review we have used a more recent return, i.e. that of the years 2004–2013. By using the return for the period 2003–2012 also for the other reviewed actors, we received the return range of 3.5–9.4% presented in Figure 3.6.

Figure 3.6.

Average annual real return 2004–2013⁸¹ average value of OECD countries' pension assets 2003–2012), %.



Underlying the success of the Danish pension insurers is probably the investment strategy they use, in which the hedging of pension liabilities plays a significant role. Since the hedging has been taken into account, the overall portfolio is very fixed-income weighted. The nature of such a portfolio reduces the return variation compared to a portfolio that is equity weighted. Although the portfolio is fixed-income weighted and could be thought to form a combination of a low risk and a low return, the portfolio, with the exception of the hedges, is formed of profitable investment instruments. As mentioned earlier, the Danish fixed income allocations are complexly formed and include mainly other than low-risk government bonds of industrial countries. In addition, the Danish prefer inflation-linked instruments. A portfolio equipped with such a hedging strategy seems to work better than a more risky portfolio without the equivalent hedging strategy (see Figure 3.7). In the countries under review, the return history of the other pension investors than the Danish ones are more prone to follow the cycle of the investment markets (see Figure 3.5). Another difference compared to the Danish is that the return fluctuation range is broader. On average, the larger the share in the portfolio of other investments than investments in fixed-income securities, the broader the return fluctuation range. When the centre of the long-term (7/10/15 years) Danish return fluctuation rate is approximately +10 per cent, the equivalent centre of the other reviewed countries was between -3 and +3 per cent in the same period. The annual return of the other investors than the Danish ones fluctuated on average on both sides of zero with approximately +/- 10–25 percentage points.

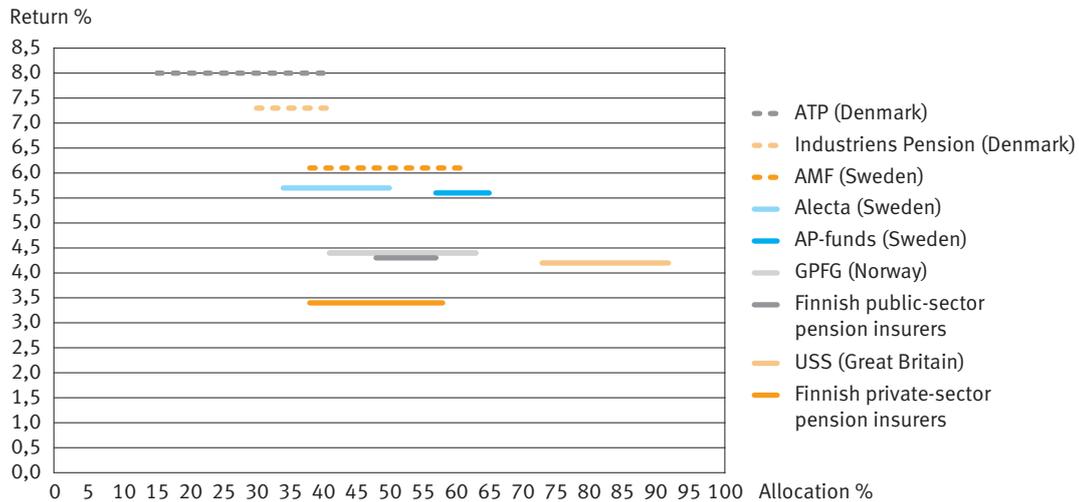
Although the positive top years have been as good as those of the Danish, with returns of about 25 per cent, the negative years have been considerably weaker with return rates of

⁸¹ In 2004–2013, the average real return of private-sector pension insurers was 3.4 per cent. The actor-specific average annual real return of the largest actors ranged between 2.0 and 3.8 per cent. The equivalent group-level return of the Finnish public-sector pension insurers was 4.3 per cent and the equivalent fluctuation range of the actors 3.8–7.4 per cent. In 2004–2013, the average real return of the entire earnings-related pension field in Finland was 3.7 per cent.

even below -25 per cent. These weak years will weigh heavily for a long time on the average annual real returns (see Figure 3.6).

Figure 3.7.

Average real total annual return for 10 years (2004–2013) vs. the range of more risky allocations (other than investments in fixed-income securities) (2004–2013), %.



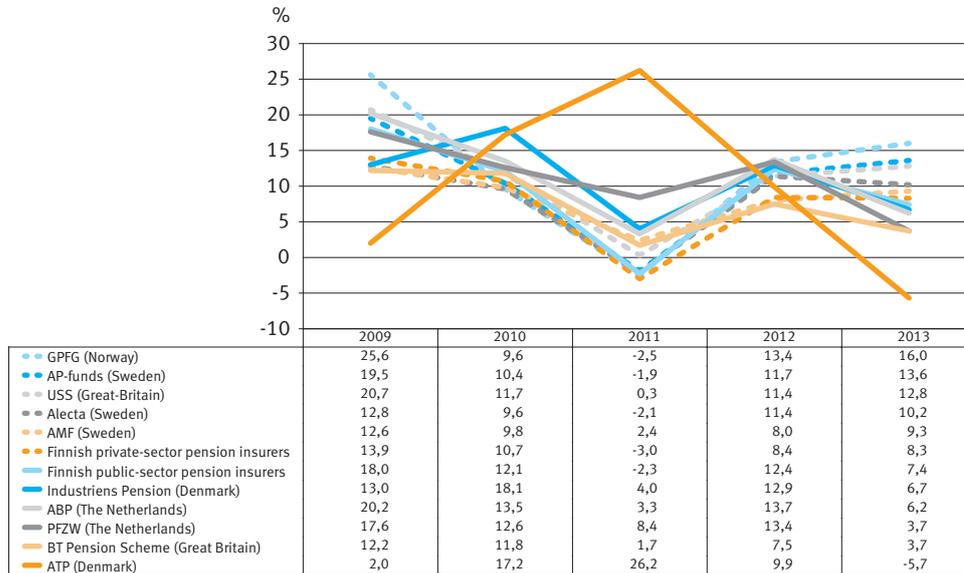
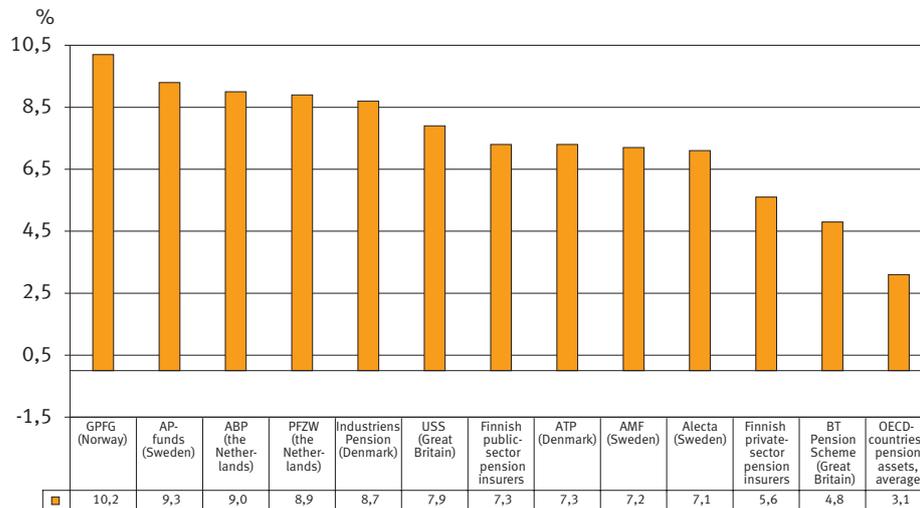
Based on the data, it would seem that pension investors can manage with a more risky strategy in periods with fewer major negative development years in the financial markets. In our study, such a period occurred between 2009 and 2013 (see Figures 3.8, 3.9 and 3.10). This five-year-period is marked by strongly developing equity markets and a bouncing back from the year 2008, which entailed the steepest fall in the financial crisis. In an inductive money market environment, riskier strategies are more successful. Although this five-year period as a whole has been a time of strongly developing financial markets, the years have been very different due to the various stages of the financial crisis. A slightly negative year, such as 2011, has not impacted in any significant way the overall return development between 2009–2013 of investors who have focused on riskier investments than fixed-income securities.

When the review period includes even one extremely bad year in the financial market, such as 2008, an investor with a hedging strategy performs better than one with a traditional allocation portfolio, in which there are less investments in fixed-income securities and more risky investments (see Figures 3.5, 3.6 and 3.7). The review yielded a parallel result during all reviewed periods in which the year 2008 was included, i.e. in periods of seven, ten and fifteen years⁸². Underlying the good long-term return development of a low-risk and hedged investment portfolio such as the Danish seems to be, to a significant degree, the ability to hedge, i.e. to limit the losses in extremely bad market situations.

⁸² The figures for the seven (2007–2013) and the fifteen (1999–2013) year periods corresponding to Figures 3.5–3.10 are included only in the original Finnish version in Appendix 1.

Figure 3.8.

Nominal, annual net return 2009–2013, %.

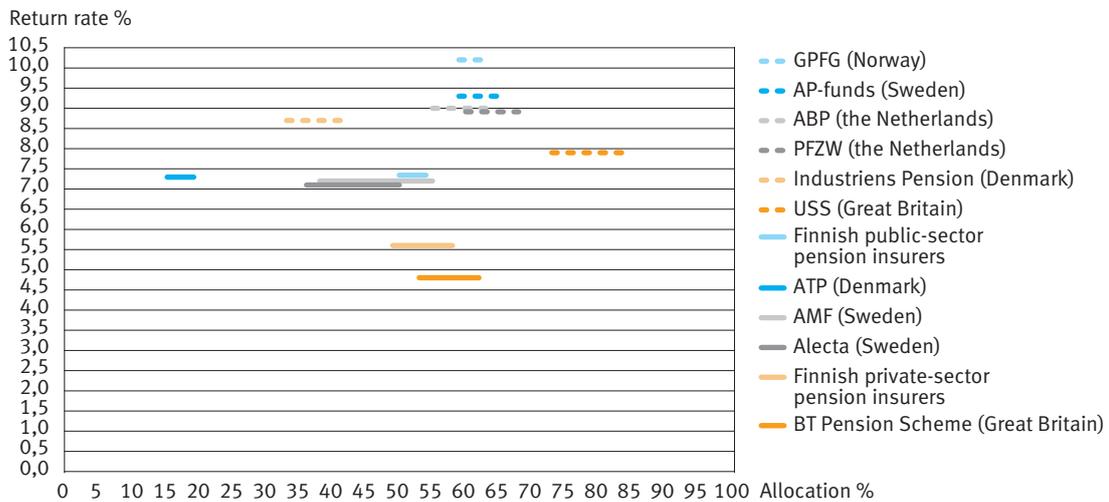
**Figure 3.9.**Average annual real return 2009–2013⁸³ (average value of OECD countries' pension assets 2009–2012), %.

83 In 2009–2013, the average real return of private-sector pension insurers was 5.6 per cent. The actor-specific average annual real return of the largest actors ranged between 3.3 and 6.0 per cent. The equivalent group-level return of the Finnish public-sector pension insurers was 7.3 per cent and the equivalent fluctuation range of the actors 4.3–7.9 per cent. In 2009–2013, the average real return of the entire earnings-related pension field in Finland was 6.2 per cent.

In 1999–2013, the average real return of private-sector earnings-related pension insurers was 3.4 per cent. The actor-specific average annual real return of the largest actors ranged between 2.1 and 3.8 per cent. The equivalent group-level return of the Finnish public-sector pension insurers was 3.5 per cent and the equivalent fluctuation range of the actors 3.0–4.3 per cent. The average real return of the entire earnings-related pension field in Finland was 3.7 per cent.

Figure 3.10.

Average real total annual return for five years (2009–2013) vs. the range of more risky allocations (other than investments in fixed-income securities) (2009–2013), %.



Based on the data, the return is very different even if the share of the riskier allocation would be of the same size. A typical reviewed allocation, where the investments in fixed-income securities are 40–60 per cent and, correspondingly, other (more risky) investments are 60–40 per cent, had average annual real returns in the past five years of 4.8–10.2 per cent (see Figure 3.9). It would seem that the returns of 40/60 allocations are explained by something else than the rough division of investment categories used in our survey.

Based on the data of our survey, the effect of the regional division on the return of investment operations can be analysed only on a rough level as separate data on the return on the actors' or groups of actors' investments are not available. In the short term, the development of one individual country's GDP⁸⁴ can act as a rough indicator of the return development of that country's financial markets⁸⁵. When we compare the development of the domestic GDP, the domestic ratio and the total return of the investments of the countries under review in this survey, we can find a few interfaces (see Figure 3.11).⁸⁶

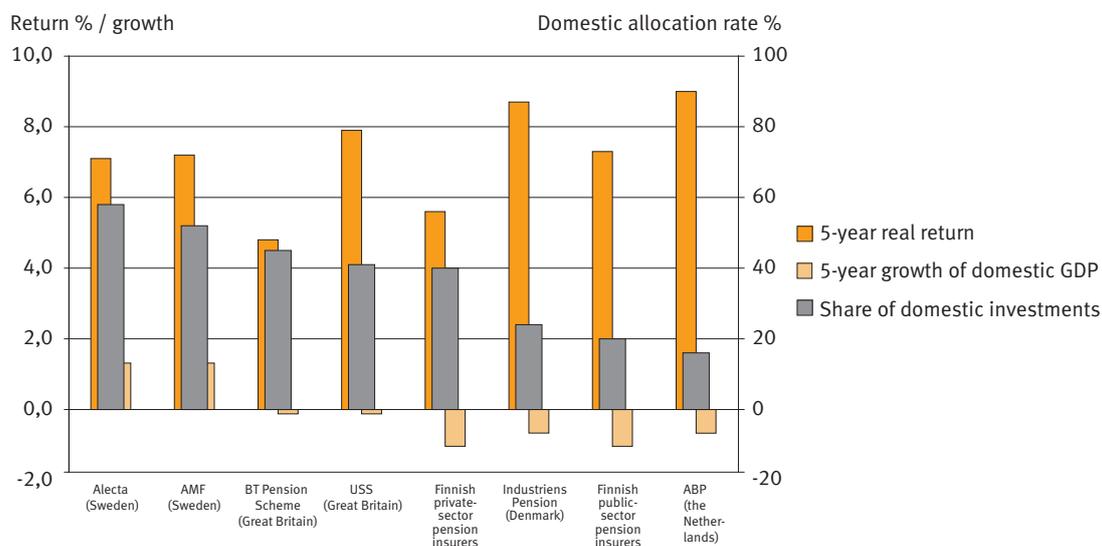
84 As for the development of the GDP, we have used the data of the OECD data base of the annual growth of the GDP, [http:// stats.oecd.org/index.aspx?queryid=22519#](http://stats.oecd.org/index.aspx?queryid=22519#). The long-term average annual growth percentages of GDP have been formed as the geometrical average of the annual growth percentages.

85 Keith Wade and Anja May have found the positive correlation between the growth in GDP and the return development of the equities markets in the short term, marked by a low growth in the GDP. In that case, as there is no pressure due to inflation, the development of the equity markets is affected more by the growth in GDP than by the monetary policy of central banks. This type of period has reigned since the financial crisis, as of the year 2009. <https://c.na3.content.force.com/servlet/servlet.ImageServer?id=015500000012xSeAAI&oid=00D300000000M2BEAU>

86 The GPGF does not invest in domestic instruments, so we have excluded it from this review.

Figure 3.11.

Assessment of effect of domestic investments on the overall return 2009–2013⁸⁷, %.



The Swedish actors have a high percentage of domestic investments. The Swedish GDP has grown more strongly than that of the other reviewed countries. The high overall returns of the Swedish actors can be partly explained by the favourable domestic returns. The overall return of the Dutch and the Danish investors are also high, but the situation is the opposite of the Swedish: the domestic GDP has been reduced, and it has been profitable to make only small-scale investments in domestic instruments. As for the British actors, the returns can apparently be explained by the investment allocation rather than by the geographical distribution as both of the British actors invest in domestic instruments approximately to the same extent. The returns of the USS are higher than those of the BT. The allocation of the USS is more risky, including more other investments (USS: 80%, BT: 60%) than investments in fixed-income securities (USS: 20%, BT: 40%).

There are no big differences between the Finnish pension insurer groups in terms of how much is invested in fixed-income securities and how much in other investment instruments. In the geographical distribution of the investments, there is a considerable difference: the Finnish public-sector pension insurers invest less in domestic instruments (ca 20%) than do the Finnish private-sector pension insurers (ca 30–40%). The return of the Finnish private-sector pension insurers has been higher in the last 17 years than that of the Finnish public-sector pension insurers. The difference in return has grown in particular between 2009 and 2013. In this same time period, the development of the Finnish GDP has remained clearly below that of the other reviewed countries. The Finnish GDP was reduced in 2009–2013 by, on average, 1.0 per cent per year. The growth rates of the other GDP in the other reviewed countries were between -0.7 and +1.3 per cent. The average annual GDP growth rate in the OECD countries was +0.8 per cent.

87 The share of domestic investments in Figure 3.11 is presented as the arithmetic average of the domestic allocations at the end of the period 2009–2013.

It would appear that the return difference between the Finnish public-sector and private-sector pension insurers is explained by the fact that the private-sector actors invest considerably more in domestic instruments than do the public-sector actors.

In recent years, the return of domestic instruments has been weighed down by a poor economic outlook. The moderate returns⁸⁸ of, in particular, the Finnish investments in equities is partly explained by the weak growth and growth outlook. For investors in fixed-income securities, the Finnish instruments offer low returns due to their fairly good average credit rating. The Finnish government itself has one of the highest credit rates. Of the domestic instruments, investments in real estate form a considerable investment object for the pension insurers: approximately 30 per cent of the domestic investments are investments in real estate⁸⁹. In the last five years (2009–2013), the return of earnings-related pension insurers' investments in real estate have fallen behind the return of investments in fixed-income securities and equities⁹⁰.

88 http://www.tela.fi/instancedata/prime_product_julkaisu/tela/embeds/telawwwstructure/17445_Sijoitusten_tuotot_2014-q2.ppt

89 http://www.tela.fi/instancedata/prime_product_julkaisu/tela/embeds/telawwwstructure/15438_Sijoituskanta_Suomeen_pitka_aikasarja_uudet_varit.pdf

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4 Conclusions

The aim of the survey has been to provide a general picture of the investment regulations for pension providers, the investment allocations' risk levels, the diversification of investments and risks and the returns on pension assets received in the reviewed countries in the last few years. In the following, we present answers to the questions posed in the introduction.

4.1 Supranational regulation

Although the EU has a considerable influence on the harmonization of the investment regulations, the national limitations regarding the choice of investment objects differ from each other. For example, the Solvency II regulations do not apply to statutory actors or buffer funds in Sweden or Finland. In the Nordic countries examined in this review, with the exception of Denmark, buffer funds are used to finance statutory pensions. Yet many different types of regulations apply to buffer funds, including regulations on investments. The regulations are often included in the acts or decrees governing the funds and, principally, the regulations address amounts, the relative share of asset types or geographical limitations. However, the buffer funds may set ethical rules or principles for their investment operations that are qualitative.

As for supplementary pensions, many EU countries have posed additional requirements for the operations of pension providers in addition to the minimum requirements of the EU directives. These additional requirements differ from one EU Member State to another. Furthermore, there are actor-specific differences in national solvency regulations between, for example, company pension funds and life insurance companies.

Solvency regulations usually apply only to DB schemes. Although DC schemes are becoming increasingly common, a considerable part of the pension assets continue to be linked to the financing of DB pensions. In the DC schemes, there are no set benefits promised beforehand, and therefore the actors are not bound by pension liabilities and related solvency regulations. The investment risk has been shifted to the insured, because the benefits are defined based on the paid contributions and the net return received of the collected assets that have been invested. Nevertheless, in some DC schemes, a guaranteed return has been defined for the pension capital. This is a very common praxis in, for example, Denmark, and requires that the actors provide for meeting the promise by hedging their pension liabilities. In addition, if the insured in a DC scheme purchases an annuity with his or her pension capital, a technical provision that falls subject to solvency regulations arises for the life insurance company.

As a rule, DB pension schemes are very different from DC schemes in terms of the investor profile. In DB schemes, the investment decisions rest with institutional investors who have to take into account the prudence of the benefits. In DC schemes, the individuals can make investment decisions at their own risk. The solvency margin requirements affect the DB pension providers' opportunities and willingness to take risks and thus limit the actors' opportunities to expand their riskier investments.

4.2 Investments' risk levels in different countries

The pension providers are long-term investors, and according to the regulations of the different countries, the pension assets must be invested profitably and prudently. The operations under this long-term aim are clearly visible also in the pension providers' investment allocations, in which investments in fixed-income securities play an important role. Our survey shows that no major changes have taken place in the last 10 years when it comes to the share of investments in fixed-income securities. In Sweden and Denmark, the share has somewhat increased, while the share of investments in fixed-income securities of the Norwegian GPF and the Finnish private-sector pension providers has declined.

In connection with the implementation of the Solvency II Directive in the EU area, the regulation has been proved to have a steering effect on the allocation of assets. The directive has steered life and non-life insurance companies in the EU area into debt-like investments since the directive is lighter for debt instruments than for capital instruments. On the other hand, the regulations of the directive are under assessment and may become less steering⁹¹. A comparison shows that the national solvency regulation also steers the investment allocations of other actors in the same direction. On the other hand, the effects of the solvency regulations on the investment operations of a single pension provider are rather minor when and if the pension provider has a generally good solvency. In that case, their own risk management rather than the solvency requirements steer their investment decisions.

In our survey, we analysed the rough difference in the risk levels of the investment portfolios by separating investments in fixed-income securities from other investments. The main thought was that those who operate with a smaller risk have a larger share of investments in fixed-income securities in their portfolios, while the investment portfolios of those who operate with higher risks include a larger share of other investments.

Our survey shows, however, that the group of investments in fixed-income securities is not homogeneous but, in terms of its risk profile, very different for different investors depending on the selected investment objects. The Danish ATP stands out in particular as it seeks for a return, not through government bonds but through corporate loans and inflation-linked bonds with a good credit rating. This way, the investment portfolio is not as low-risk as could be expected by a simple division into investments in fixed-income securities and other investments.

The growth of the share of investments in fixed-income securities also depends on structural and investment technical reasons relating to pension systems. For example, in British DB pension systems, the share of equities has dropped in the last ten years from an ample 60 per cent to approximately 35 per cent of the overall investments. Underlying this change is the closing of DB systems to new members and the hedging of current benefits by shifting to instruments with a smaller value fluctuation range. The actors thus aim at reducing the market risks of the assets that cover the pension liabilities. These risks are caused, in particular, by the fluctuation in the investment return of the equity markets. This is part of the more general development trend that can be observed also in other countries

91 See e.g. Technical Findings in the Long-Term Guarantees Assessment, EIOPA/13/296, Jun 2013.

(so-called liability-driven investment [LDI] or asset-liability matching [ALM]), with which pension liabilities are hedged by corresponding investments in fixed-income securities. This is a central part of the investment strategy of, for example, the Danish ATP. Also in the Netherlands, the share of investments in fixed-income securities has grown in the last decade, partly due to the aforementioned hedging strategies from approximately 40 per cent to more than 50 per cent of the overall investments from 2007 to 2014. Underlying this change is the replacing of the fixed discount rate used to calculate pension liabilities with a market rate. Investors have tried to hedge their investments against these changes by increasing the share of interest-bearing papers.

It must be noted that changes in the share of investments in fixed-income securities may also, especially short-term, be caused by the market situation (in times of crises, the market value and share of investments in fixed-income securities of the total portfolio increase while the market value and share of riskier investments decrease). Based on the data we cannot say, however, whether this is the case or whether the allocation has been actively changed to make it less risky by buying more investments in fixed-income securities and selling investments with higher risks.

To counterbalance the hedging of the changes in technical provisions, the reviewed countries are looking for higher returns by investing in equities and other high-yielding investment instruments. In Finland, for example, obstacles that have prevented the steering of investment structures have been removed so that the investment operations can increasingly focus on equity markets. Ambachtsheer (2013) suggested that pension assets be diversified abroad and that nearly all investments, up to 80 per cent, be allocated into equities since the financial risk of our system mainly lies in the pay-as-you-go system. An equivalent 80-per-cent equity weight of the reviewed countries can be found only in the Swedish premium pension system, which holds a marginal share of the overall pension provision. Of the selected actors, the USS in Great Britain has an equity weight that exceeds 70 per cent, albeit the percentage has been reduced in the last few years, as in general in Britain. In Finland, the equity weight is now 40 per cent, which is at an average level in the reviewed countries (20–60%). In the agreement of the 2017 pension reform, the solvency framework is suggested to be changed so that the private sector pension providers' equity weight would increase further. However, according to the agreement on the pension reform, the equity weight of the investments of a single earnings-related pension insurance provider shall be set at a maximum of 60 per cent of all investments. The labour market organisations suggest that this change come into force at the beginning of 2017⁹².

Excluded from our review is a closer examination of the other investment instruments. For example, the narrowed leeway of public finances in many countries as a result of the financial crisis has raised hopes that pension funds will participate more actively to assist economic growth through long-term investments that are currently too much for the public economy. For example, the OECD (2014⁹³) hopes to see banks accompanied by institutional investors which, by investing in infrastructure, could lay the ground for new economic

92 Agreement on 2017 Earnings-related Pension Reform http://www.etk.fi/en/service/pension_reform_in_2017/1504/pension_reform_in_2017

93 Institutional Investors and Long-term Investment. <http://www.oecd.org/finance/OECD-LTI-project.pdf>

growth. According to an assessment by the OECD, less than one per cent of the state buffer funds and the large private actors' pension assets were invested in infrastructure projects in 2012 (OECD 2014, 14).

4.3 Regional distribution of investments in reviewed countries

Investments tend to be diversified abroad to a considerable degree in order to increase the risk-bearing capacity of pension insurance companies and pension funds. According to Sorsa (2012), foreign investments were viewed sceptically only two decades ago due to, among other things, exchange and liquidity risks. European pension investors differed from each other considerably; partly in terms of the investment opportunities they offered and, partly, in terms of the actors that dominated the local financial sectors and their modes of operation. Traditionally, pension assets were invested in domestic bonds, because investing in equities and other securities was difficult due to taxation, accounting based on historical appreciation, strict investment regulations and bad previous experiences (see also Davis 2002; Harrison 1997).

The development of EU legislation has unified the investment regulations of European countries. One key factor is the Economic and Monetary Union (EMU), which has removed the internal exchange risks of the Eurozone. In addition, the investment regulations have been unified and the obstacles for investing have been reduced globally through the actions of international organisations such as the OECD (STM 2010). This way, the premises for investing abroad have been increased in the last decades also through supranational regulative measures and the development of shared structures.

In Finland, the internationalisation of investments has been particularly significant since the premium lending of earnings-related pension providers was the largest form of investment as late as in the 1990s. As the changes to the regulations concerning investments in the earnings-related pension scheme came into effect towards the end of the 1990s, the earnings-related pension insurance companies began redirecting their investment operations from premium lending to companies to equity investments in Finland and abroad. The other pension providers rapidly followed suit in the early 2000s. Sorsa (2010, 151–159) describes the decade following 1997 as a decade of a fundamental change of direction from supporting the national economic development to professionally managing international investments.

Pension assets have also often been linked to hopes of securing employment and economic growth through domestic investments. The buffer funds, in particular, are linked to socio-political goals. However, in its report on the investment operations of pension funds, the OECD (2013) has observed that there are no considerable differences between the investment allocations of buffer funds and private actors in this respect. In our survey, a review of the portfolios of Norwegian and Swedish buffer funds shows that the investment decisions are made first and foremost to finance earnings-related pensions and to diversify risks rather than from the point of view of socio-political goals. A characterising feature of the Norwegian GPF is that, according to its regulations, it must invest all of its investment assets abroad. In its annual report on AP buffer funds published in May 2014, the Swedish government observed a domestic weighting that is higher than the global reference index

MSCI World of equity investments, although the domestic equity weight of the fund's investment allocations was only 14 per cent in 2013⁹⁴.

According to the Swedish government, the situation is not optimal when it comes to the diversification of risks. On the other hand, the larger domestic share has been favoured as the average annual return (8%) from the Swedish equity markets has been clearly better than the reference index (1.6%) in the period 2001–2013.

Of the other selected actors included in our survey, the Swedish earnings-related pension managers Alecta and AMF have made extensive domestic investments amounting to as much as 60 per cent of their total investment assets. The British BT and USS pension funds have invested nearly 50 per cent of their investment assets domestically. The share was slightly higher than that of the Finnish private-sector pension insurers (ca 30–40%). The Danish Industriens Pension and the Finnish public-sector pension providers fall in the mid-range of the reviewed actors with their domestic investments amounting to 20–30 per cent of their investment assets. The domestic investments of the Dutch actors were the lowest, at 10–20 per cent.

It is also noteworthy that, per se, foreign investments are affected by the size of the assets in comparison to the country's GDP. The assets of the GPFG have grown to more than 170 per cent of GDP, and the assets in the pension funds in the Netherlands amount to more than 150 per cent of GDP. Investing these assets domestically would be notably challenging and probably risky and, economically, even harmful.

In Finland, the share of domestic investments of earnings-related pension providers can be seen as fairly high in relation to the size of the economy. The domestic investments total about one third of the invested assets. However, the share is smaller than in the OECD's (2013) sample of large private pension funds and buffer funds of different countries, in which the average fund invested 39.5 per cent of its assets abroad in 2012.

4.4 Review of the investment return of selected actors

A review of the returns of the groups of Finnish pension providers and of individual large foreign pension providers included in the survey shows that the average pension asset returns of Finnish groups of actors are on an average level or below the average of the compared group during the review periods. The average, annual real returns varied from 4.8 per cent of the British BT to 10.2 per cent of the Norwegian GPFG in 2009–2013. The equivalent of the Finnish public-sector pension providers was 7.3 per cent and of the private-sector pension providers 5.6 per cent. Within the group of public-sector pension providers, the equivalent return of different actors ranged between 4.3 and 7.9 per cent. The return of the largest private-sector pension providers ranged between 3.3 and 6.0 per cent. In 2009–2012, the average annual real return of private-sector pension assets in the OECD countries was 3.1 per cent. The actors and groups of actors under review in this survey are among the most

94 Redovisning av AP-fondernas verksamhet t.o.m. 2013. Skr. 2013/14:130. <http://www.regeringen.se/sb/d/18210/a/241150>; IPE, Investment & Pensions Europe. 29.5.2014. Swedish government calls on AP funds to justify domestic investment bias <http://www.ipe.com/10001954.article>

successful of the pension investors: the average annual real returns are 1.7–7.1 percentage points higher than the average return of pension investments in the OECD countries.

The results of a ten-year period (2004–2013) are parallel to those of a five-year period. The average annual real return between 2004 and 2013 varied from the Finnish private-sector pension providers' 3.4 per cent (return fluctuation of largest actors 2.0–3.8 per cent) to the Danish ATP's 8.0 per cent. The Finnish public-sector pension providers reached an average 4.3 percent real return (the actors' return varied between 3.8 and 7.4 per cent). In 2003–2012, the OECD average annual real return was 2.3 per cent. The reviewed actors and groups of actors exceeded this return by 1.1–5.7 percentage points.

CEM reached the same result of the Finnish pension system in an international investment review in which the five-year net return of the Finnish pension assets in 2007–2011 was 2.5 per cent, while the median of net returns of global, larger funds for the same period was 3.5 per cent. A reason presented for the weaker result than the international, bigger actors in the period in question was the heavy weighting of Finnish pension assets in domestic investments. Finland fell behind the others in terms of returns especially in 2010 and 2011, when the domestic equity weighting was 17 per cent and the Finnish equity markets were outperformed by other equity markets (Ambachtscheer 2013, 35, 40.)

The Reserve Fund Monitor 2011⁹⁵ survey by the International Social Security Association (ISSA) reviewed social insurance funds and other pension institutions. The survey included 22 different participants, actors and groups of actors, of which three were Finnish statutory pension provider groups (pension insurance companies, company pension funds, industry-wide pension funds and public-sector pension providers). The review focused on, among other things, the development of returns in 2009–2011 through nominal annual net returns. In that period, the return of all Finnish pension provider groups were clearly better than the average return of the reviewed pension providers.

Different sources, reviews and surveys (OECD, CEM, ISSA and the survey at hand) present different views on the comparison of the international return of pension investors. When comparing returns and when the reviewed group is limited to the major international pension investors, as in CEM's survey, or when the reviewed group is limited even further into a few major Nordic and Western European pension investors, as in the survey at hand, the Finnish earnings-related pension insurers fall behind the leading ones. When looking at returns more broadly, such as in ISSA's and OECD's surveys, and by adding the number of reviewed actors so that also other actors than the major ones in Northern Europe or its immediate vicinity are included, the return of Finnish earnings-related pension insurers is clearly above average.

Finally, in addition to these international reviews, we need to compare the realised return of Finnish earnings-related pension insurers with an important domestic parameter: the expected 3.5 per cent real-return of the baseline projection of the Finnish Centre for Pensions. This assumed real return is used when estimating the long-term development of the earnings-related pension contribution and the financing of the earnings-related pension system. The return has developed more strongly in the last 17 years (1997–2013) than

95 ISSA's Reserve Fund Monitor surveys are available for ISSA members only. <http://www.issa.int/resources/reserve-fund-monitor/reports>

the currently used estimate in the projections: the average annual real return of the entire earnings-related pension field has been 4.0 per cent. The equivalent return rate for private-sector pension providers has been 3.9 per cent and that for public-sector pension providers 4.3 per cent.

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