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Complexity in risks facing pension plans: nonmarket financial risk in the United States and Poland

Abstract

This paper discusses agency, regulatory capture, counterparty and political risks as aspects of the nonmarket financial risks that pension plans and their participants bear, using as examples the United States and Poland. The intent of the paper is to expand beyond financial market risks the discussion of financial risks that pension plans and participants bear in funded pension systems. Thus, this paper fits into the broader discussion of the relative merits of funded and unfunded pensions. The paper also relates to analysis of the increasingly complex environment in which pension plans operate.

Keywords: pension plans, nonmarket financial risks, agency risks, regulatory capture risks, counterparty risks, political risks.

JEL Classification: G230.

Introduction

Financial markets in modern economies are complex systems. The ongoing international integration of financial markets intensifies this complexity. Knowledge about complex financial market systems and understanding the way such systems function, along with understanding interactions between components of those systems, is incomplete. Complexity of financial systems results in difficul-

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ties in anticipating directions of development in market segments. A situation in which a market segment functions or interacts with other segments in an unforeseen manner may result in other segments of financial markets behaving contrary to expectations. Such unforeseen behaviours of elements of the system may lead to the whole system behaving contrary to expectations [Hanseth 2007]. In the context of a financial system, complexity may be discussed either of financial instruments (and to be more exact financial innovations that are very complex products) or of the structure of the financial system that is based on mutual interdependencies in the group of actors and contractors. As a result of such mutual interdependencies, it is possible to observe emergence of mechanisms of transmitting economic shocks through networks whose structure is being transformed by financial innovations and regulatory arbitrage. As a result, numerous loops of feedbacks are created that amplify financial market effects [Landau 2009].

Growing complexity of the financial system results in its greater unpredictability. Financial phenomena that may be observed in such systems are increasingly difficult to control. It is even more difficult to manage them. Integration of financial markets has intensified their complexity, which results in an increase in the level of risks in the financial institution environment [Hanseth 2007]. This complexity makes financial institutions face totally new challenges. These challenges include, *inter alia*, ongoing innovations, complicated regulations and supervision of governmental institutions, overload of information, and market volatility. Because of the rapidly changing nature of the basic reasons for the complexity, new mechanisms that drive this complexity have emerged. This leads to emergence of new risks to be managed [ERM 2011].

Increasingly, pension funds face a number of nonmarket financial risks. In an attempt to expand diversification of their portfolios, pension plans have increased the range of assets in which they invest. At one time, they invested almost exclusively in assets traded on public exchanges. Now they also invest in infrastructure, real estate, real assets (such as timber) and private equity. Formerly, the primary financial risks they bore were those of financial markets. Now they are also exposed to agency and counterparty risks. In addition, they are exposed to regulatory capture risks, which is the risk that the regulations will be designed to favor the regulated industry. For example, the advisers to pension plans and participants may engage in regulatory capture so as to protect their ability to benefit from conflicts of interest and to provide advice that is not in the best interests of their clients. Also, they face political risks, particularly when funded pensions have replaced or partially replaced pay-as-you-go social security systems.

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1. Agency risks

Agency relationships occur between principals and agents of the principals. In a pension plan, the principals are the participants [Samborski 2014]. They are the beneficiaries of the pension assets. The agents of the principals include the plan sponsor or the plan management company and the advisers to the plan sponsor and to the participants. Agency risk occurs because the agent may act in its own best interests rather than in the best interests of the principal. When the agent has more information than the principal (an information asymmetry), the principal may not be able to fully monitor the agent, and the agent may take advantage of its superior information.

In agency theory generally there are three parties: the principal, the agent who acts on behalf of the principal in dealing with the service provider, and the service provider. In pension arrangements, this framework can be expanded to five parties, including the first three plus financial advisers to the agent and principals, and government regulators.

For a defined contribution plan, the employer is the plan sponsor and is the agent for the participants. The employer is advised by financial advisers, and is responsible for choosing investments or the investment options for the defined contribution plan. Financial advisers may also advise the participants if the participants have the responsibility for choosing investments. The government plays a role in protecting the interests of participants as regulator.

Pension plans bear agency risk with respect financial advice that they receive because of conflicts of interest that financial advisers have. The primary goal of the agent presumably is to maximise the agent's income, which results in the pension plan paying higher fees. For example, advisers may recommend active trading policies, even when those policies are not in the best interest of pension plans and their participants, because the advisers' compensation depends in part on the amount of trading fees they generate.

In an employer-provided pension plan, the employer is an agent of the participants. The interest of employers may differ from that of participants. For

example, employers sponsoring defined benefit plans or collectively managed defined contribution plans may invest part of the plan assets in the securities of the employer, even though the employer's stock may be performing poorly. In the United States, to limit this risk, plan sponsors cannot invest more than 10% of the assets of a defined benefit plan in securities (stocks and bonds) of the sponsoring employer.

In defined contribution plans, where the participants bear the costs of fees, plan sponsors who negotiate on behalf of the participants may not have the same incentive to negotiate for low fees as when they negotiate for fees for defined benefit plans, where the plan sponsor bears the cost of the fees. In recognition of this problem, in the United States, sponsors of defined contribution plans have a duty to provide investment options that charge reasonable fees. Nonetheless, some defined contribution plans provide investment options with relatively high fees.

Agents may take advantage of plan sponsors and participants because they have an information advantage concerning investments. One strategy they use to take advantage of plan sponsors and participants is strategic complexity [Muller and Turner 2015]. With strategic complexity, they use complex and ambiguous fee structures, where it can be difficult or impossible to determine the amount of fees. They also use complex, ambiguous, and misleading language to describe the fees, indicating, for example, that certain fees "may" apply, but without clearly indicating the circumstances under which they apply, with often the fees always applying. While such ambiguity is permitted in the United States, it is not permitted in the European Union.

Conflicts of interest affecting quality of advice also affect plan sponsors because some mutual funds pay advisers who recommend funds to plan sponsors, so that the advisers will recommend the funds of the mutual fund company. These payments can create a conflict of interest if an adviser may directly or indirectly receive greater compensation from marketing certain funds. Furthermore, low-cost funds tend not to offer such payments. For example, some mutual funds offer share classes with no revenue sharing and lower expense ratios alongside share classes with revenue sharing and higher expense ratios [Reish and Ashton 2011]. Revenue sharing occurs when a mutual fund pays an adviser to recommend the fund. At least one service provider – Securion – deals with the issue of revenue sharing by passing on all revenue sharing to the plan, crediting the amounts to the individual accounts that generated the revenue sharing [Reish and Ashton 2011].

The amount of revenue-sharing payments advisers receive varies considerably. One U.S. study found that payments range from 5 to 125 basis points annually [U.S. GAO 2011b]. U.S. private pension law (ERISA – the Employee Retirement Income Security Act) requires pension plan sponsors to consider conflicts of interest

when selecting service providers [U.S. GAO 2011a]. For example, an investment adviser may purposely not negotiate for the lowest transaction fees for plan participants for buying and selling shares. As a result, the broker-dealer would pay the investment adviser out of these higher fees [U.S. GAO 2011a].

2. Policy to deal with agency risks: fiduciary standard and regulatory capture

In an attempt to protect the interests of participants, governments establish pension regulators. The International Organisation of Pension Supervisors (IOPS) provides guidance as to the structure of regulatory authority. IOPS [2010] states in its IOPS Principles of Private Pension Supervision that, “The objectives of private pension supervision focus on protecting the interest of pension fund members and beneficiaries (...)” [IOPS 2010, p. 3].

The legal system uses three methods to mitigate conflicts of interest: (1) requiring disclosure, (2) prohibiting specified actions, and (3) subjecting actions or actors to fiduciary duties. Each of these methods is used in the context of investment advice [Turner and Muir 2013].

Disclosure and transparency

Turning to disclosure first, the legal standard may require that an actor such as an investment adviser disclose its conflicts of interest so that the client can consider the existence of the conflicts when selecting an investment adviser and in evaluating its recommendations. For advisers who are fiduciaries, disclosure of conflicts of interest typically is part of the adviser’s fiduciary duties.

The U.S. Department of Labor has recently enacted regulations designed to better inform plan sponsors and participants about the fees they pay for 401(k) plans. Plan sponsors and participants risk needlessly paying high fees because they do not understand what level of fees they are paying. It appears that service providers generally do not compete on the basis of fees, and that it is not in their interest to clearly disclose their fees.

The new requirements include the disclosure of indirect compensation, which is compensation paid to a service provider by a third party. For example, a mutual fund (third party) may pay a financial adviser a fee for recommending the mutual fund to a 401(k) plan sponsor. The disclosure of these types of payments will assist plan sponsors in understanding the conflicts of interest that may affect the advice they receive [Turner and Muir 2011].

Some service providers to pension plans have responded to the new U.S. requirements by providing complex, nontransparent fee disclosures, sometimes involving lengthy documents. Recognising this problem, in 2014 the U.S. Department of Labor (Employee Benefits Security Administration) has proposed a rule that would require that service providers who provide lengthy fee disclosure documents also provide a “road map” indicating where the fee information can be found.

Fiduciary standard

In an attempt to limit agency risk, some governments have placed a fiduciary standard on certain agents to pension plans and participants. For example, Australia has placed a fiduciary standard on financial advisers, and the U.S. has placed a fiduciary standard on plan sponsors. With a fiduciary standard, the agents are required to act in the best interests of the pension participants. U.S. pension law imposes a number of fiduciary obligations on agents who act with discretion in the administration of a DB plan or with respect to plan assets. One of those requirements is that “a fiduciary shall discharge his duties with respect to a plan solely in the interest of the participants and beneficiaries and (...) for the exclusive purpose of (...) providing benefits to participants and their beneficiaries (...) and defraying reasonable expenses of administering the plan (...)” [ERISA § 404(a)(1)].

This fiduciary obligation has become known as ERISA’s exclusive purpose requirement [Turner and Muir 2011]. Courts have found that fiduciaries have breached this duty by making investments that provided high commission payable to a fiduciary or making loans of plan assets for purposes that benefited plan fiduciaries. Similarly, a violation occurred where DB plan fiduciaries made decisions regarding the voting of DB plan assets in order to defeat a hostile takeover and protect their jobs [Stanley, ed., 2000, p. 663-664]. Even though plan sponsors of publicly owned corporations have a responsibility to their shareholders, once the sponsor has decided to provide a pension plan, the responsibility to the participants overrides the sponsor’s responsibility to shareholders in U.S. law.

Regulating conflicts of interest

Fee structure related to advice may affect the quality of advice due to conflicts of interest of the adviser. If the adviser receives some or all of his compensation through commissions on the sales of financial products, and the amount of commission varies depending on the product the client purchases, the quality of advice may suffer. This situation can be remedied by requiring that all commissions be at the same rate regardless of the product the client chooses, which is called fee leveling. That remedy still suffers from the problem that low fee pro-

viders may not be included among the choices the adviser offers because they do not provide commissions. A better remedy is for pension plans and participants to use fee-only advisers, who do not receive commissions on products that their clients purchase but rather are paid on an hourly or per project basis or based on the amount of assets which they provide advice for.

Regulations can limit the conflicts of interest that agents have by prohibiting certain conflicts. For example, in the United Kingdom, financial advisers cannot also sell financial products. In the United States, some transactions of plan sponsors with their relatives (spouse, parents, siblings, in-laws) are prohibited because of the inherent conflict of interest. It is felt that in those situations, the fiduciary standard is not adequate protection of the interests of participants.

A lower standard than the fiduciary standard is the standard that the agents must only provide advice that is appropriate for the participants. With this suitability standard that generally applies in the United States for financial advisers to pension plans, the adviser can advise purchase of a product that may result in the plan paying higher fees than if the plan had received the best possible advice.

Regulatory capture

In an attempt to avoid fiduciary liability, agents that provide services to pension plan sponsors or participants may attempt to capture the regulatory agency [Turner, Hughes and Maher 2014]. Regulatory capture refers to regulated industries influencing the regulatory agency to act in the interests of the agents rather than the participants. Regulated industries, such as financial advisers to pension plans, may have a strong financial incentive to avoid a fiduciary standard, and thus be willing to spend considerable sums attempting to influence the regulator to not enact such a standard. Agents in an industry will attempt to influence the regulator by forming industry organizations that engage in lobbying of the agency and in lobbying the politicians who oversee the regulators.

The issue of regulatory capture differs in parliamentary systems from systems like that of the United States. In parliamentary systems, the parliament and the executive branch are always controlled by the same political party. In systems such as in the United States, the Congress and the Executive Branch (the President) can be controlled by different parties, which provide an additional possibility for regulatory capture by capturing the legislative branch that oversees the regulator, rather than the regulator itself.

3. Financial advice reforms

A number of countries are considering the issues of the quality of financial advice and its cost, and are considering reforms that would increase consumer protection, including protection of pension participants as investors [Turner and Muir 2013a, 2014].

United Kingdom. In order to improve the quality of advice, the United Kingdom has made it illegal, starting at the end of 2012, for advisers to receive commissions for selling products to clients. Advisers who sell products tend to recommend the products they sell, which may not be the best products for clients. Instead, advisers will be required to charge their clients fees for their services. This approach will reduce conflicts of interest that advisers have. It will have the further advantage that the compensation advisers receive will be more transparent. This reform is being made because the receipt of commissions has been viewed as a root cause of the pension “mis-selling” scandal in the U.K. Previously, financial advisers receiving commissions for making recommendations concerning pensions to clients had an obligation to make recommendations in the best interest of the client, but it had become clear that because of commissions that approach was not working. Many people received advice that was not in their best interests from advisers with a conflict of interest [Turner and Muir 2013a, 2014].

One criticism of banning commissions is that a single fee paid at the time of the advice may be too expensive for some clients, effectively preventing them from receiving advice. If the fees are too expensive for a client to pay at one time, advisers in the U.K. are permitted to spread the fee charged as installments over a period of time [BBC 2010; Turner and Muir 2013a, 2014].

An additional new requirement in the U.K. is that advisers will be required to tell their clients if their advice is independent, meaning that they provide advice over a full range of investment options, or if it is restricted, meaning that the advice they provide is only over a limited range of investments options, such as the options provided by the company they work for [Osborne 2010; Turner and Muir 2013a, 2014].

As of the end of 2012, a new agency in the U.K., the Financial Conduct Authority, is responsible for protecting consumers in financial markets. A regulatory issue this agency faces is the trade-off between protecting some consumers from detriment by not permitting certain risky investment products, while limiting the choice of others [Turner and Muir 2013a, 2014].

Australia. Australia is implementing legislation to improve the quality of financial advice [Kell 2012]. To address problems associated with financial advice, Australia has instituted the Future of Financial Advice (FoFA) reform, which took effect in July 2013. By eliminating commissions for advisers, the reform eliminates the problem of “hat switching,” which occurs when an adviser receives fees for advice but also receives commissions depending on what he advises that the client purchases. “Hat switching” means that the adviser wears one hat as an adviser and a different hat as a salesperson. In addition, advisers have a statutory requirement to act in the best interest of their clients, which is commonly considered to be a fiduciary duty. Thus, when they recommend a financial product, they will have the duty to recommend the product that is in the best interest of their client, not one that is merely suitable [Turner and Muir 2013a, 2014].

Also, the reform attempts to improve the transparency of fees. When advisers provide ongoing advice, they will be required to renew their fee agreements with clients every two years. In addition, the reforms attempt to facilitate the provision of “scaled” advice, which would be advice on a limited set of issues and at lower cost, rather than a full-scale review of their financial situation [Turner and Muir 2013a, 2014].

4. Counterparty risks

Global financial markets function by using mutually interconnected institutions that operate on the basis of contracts they conclude between one another. Effective functioning of global financial markets depends on market participants meeting contractual obligations [Belmont 2012]. However, the financial crisis clearly showed that financial institutions had largely underestimated credit counterparty risk that was related with derivatives subject to non-regulated market trade [Regulation (EU) No 575/2013]. Mutual claims of counterparties resulting from transactions made between investors (e.g. pension funds) and commercial partners (e.g. investment banks) on the market of derivatives involved huge amounts. Simultaneously, on the market of derivatives a limited number of commercial partners (usually investment banks, futures commission merchants (FCMs) or brokerage houses) are willing to make such transactions. When the financial situation of commercial partners deteriorated, the contracts became difficult to realise. Financial difficulties experienced by some market participants contributed to rapid spread of the crisis in a group of other entities that make transactions on the market of derivatives [Resolution no. 134/2010]. The financial market witnessed emergence of a mechanism that helped transfer counterparty risk

that shortly became systemic risk [Segoviano and Singh 2008]. The mechanism of counterparty risk transfer also resulted from some aspects of derivative transactions. The nature of derivative transactions made numerous market participants adopt the same investment strategies. Such a situation increased financial market susceptibility to the underlying risk and jeopardised stability of the markets in question. As a result, this contributed to remarkable financial losses borne by participants of derivative markets [Resolution no. 134/2010].

Counterparty risk on the global financial markets is largely due to creditworthiness of financial institutions. In the financial system, counterparty risk is due to loss that results from a counterparty's failure to meet contractual obligations [Segoviano and Singh 2008]. Counterparty risk is therefore the probability that a party involved in a transaction will be unable or unwilling to meet its contractual obligations. Counterparty risk increases as the probability that a company becomes insolvent grows. This probability results from systemic risk, financial losses, negligence, potential legal claims or other business failures [Belmont 2012]. That is why failure to meet contractual obligations by a counterparty may result from both business failure and a decrease in creditworthiness prior to final settlements of financial transactions [OCC 2011]. With reference to the market of derivatives, counterparty risk arises from a counterparty's risk of failure to meet obligations resulting from derivative-related transactions [Resolution no. 134/2010]. It is possible to distinguish settlement risk and pre-settlement risk. Settlement risk is related to the possibility that a financial institution – a counterparty – will not settle its liability with a pension fund on the settlement date when the whole value of the contract in question is subject to risk, and the risk refers to all flows realised between a pension fund and a financial institution – a counterparty. On the other hand, pre-settlement risk involves the possibility that a financial institution – a counterparty – will fail to keep its obligation in some part or on the whole to make a payment at a particular moment, as a result of which a pension fund may generate losses [BGK 2011].

On the financial market, counterparty risk is mainly observed in the case of swap transactions and other transactions that are related to structured products [Baskan 2009]. Interest in investing in derivatives predominantly results from their properties. Firstly, they enable securing open positions that generate market risk. Secondly, they enable risk redistribution and risk transfer to those entities that are willing to accept and manage the risk in question. Thirdly, they allow for investing on financial markets without any necessity of direct access to the markets in question. Fourthly, they lead to obtaining impressive financial leverage, i.e. obtaining high profits at low investment expenditures [Resolution no. 134/2010].

Pension scheme involvement in the market for derivatives is limited to realising strategies that hedge risk. Strategies that aim at extraordinary profits are not generally used by pension schemes [Sourbès 2013]. Using derivatives in a pension scheme aims at providing more flexibility for the allocation of assets. For instance, a pension scheme may try to protect itself against an interest rate risk affecting the present value of future liabilities by using derivatives. This strategy allows a pension scheme to invest in assets characterised by limited sensitivity to interest rates, e.g. shares or alternative assets. However, as a result other risks including risk of liquidity risk and counterparty risk emerge [NAPF 2013].

Risk management in a pension scheme is therefore limited to adoption of some compromise. Derivatives are tools used in risk management that allow for reaching a specific predetermined financial target. Nevertheless, using derivatives changes primary risk (e.g. risk of interest rate) into secondary risk (e.g. risk of liquidity or risk of counterparty). That is why using derivatives requires a pension scheme to carry out appropriate analyses that take the above limitations into account [NAPF 2013].

Growing interest in derivatives has contributed to development of more sophisticated systems and methods for monitoring and limiting counterparty risk, which also attracts attention of regulators. It is worth mentioning improvement has occurred in the accounting standards (IFSR) in the context of counterparty risk in the capital markets regulatory framework in the European Union (Basel II, Basel III, Solvency II) [NAPF 2013]. For instance, changes in accounting standards for hedging (IFRS) may force pension funds to change their hedging strategies. A concept of “hypothetical derivatives” in new international accounting standards referring to financial instruments (IRFS) may turn out to be beneficial, although this change will increase costs of using cross-currency swaps that are frequently used by pension funds [Sourbès 2013a]. With reference to counterparty risk in Basel II regulations, additional requirements affect market transactions. These requirements particularly concern the calculation of capital that is connected with over-the-counter (OTC) market transactions or financing transactions by means of securities, including the following transactions: repo and reverse repo, in which case potential failure of counterparty is limited to a one-year horizon. Assessment of counterparty risk in market transactions is directly related to evaluation of exposure value recognised to be appropriate in market transactions. Basel III introduces additional limitations to the scope of counterparty credit risk management. Basel III standards include a range of suggestions concerning new measures and amendments of already existing Basel II requirements that refer to counterparty credit risk [Accenture 2013]. They mainly refer to the following:

- increasing capital requirements for capital credit risk (CCR) by introducing additional capital requirements (the so-called CVA capital charge) that is supposed to include risk of losses related to mark-to-market valuation resulting from a decrease in credit quality of a counterparty;
- introducing an incentive to carry out OTC transactions by using central counterparties (CCP) – reduced weights of risk for such transactions with simultaneous introduction of requirements to be met by counterparty [KNF 2011].

Basel III Regulation should contribute to a remarkable increase in requirements that concern an institution's own funds in the context of derivatives subject to non-regulated market trade and transactions that finance securities. Moreover, the institutions involved should also be provided with serious incentives to use central counterparties. Additionally, implementation of the Basel III regulation ought to ensure some extra incentives to improve management of counterparty risk exposure and to lead to changes of the present system of perceiving exposure of the counterparty credit risk in the context of central counterparties [Regulation (EU) No 575/2013].

We now consider what consequences those new regulations may have for pension funds. In transactions that hedge against interest rate risk, defined benefit pension funds may use interest rate derivatives. Regulators are trying to improve financial stability and security in the OTC derivative market, thus promoting the central counterparty institution. Hence, as a result of new regulations, new changes in market practices may be expected. These changes may include more frequent use of cash as a form of hedging transactions. There might also be a further decrease in counterparty credit quality. Economic and legal incentives will, however, contribute to a shift towards central counterparty clearing of interest rate derivatives. The practice of 'central counterparty clearing' will be used more frequently for instruments that apply leverage to increase investment effectiveness – e.g. equity derivatives [Towers Watson 2012]. Moreover, new regulations (Basel 2.5 and III) will surely increase costs of using interest rate in both the European Union and the U.S. [Fixsen 2012].

However, the new regulations will not completely solve problems related to counterparty risk [Halim, Miller and Dupont 2010].

Counterparty risk may occur in any place along the chain of intermediaries on the financial market. Counterparty risk is particularly visible in contracts that employ derivatives on the OTC market and that are concluded between investors and business partners, i.e. in a majority of cases investment banks, futures commission merchants (FCMs) and brokerage houses [Belmont 2012]. Pension funds involved in transactions made on the market of derivatives should have coherent systems of risk management that are adequate to the scope, volume and

complexity for the activities undertaken and the risk to be faced. Such systems must guarantee sufficient measurement, monitoring and control of factors that affect the volume of the risk involved. The factors in question involve interest rates and currency exchange rates, prices on the markets of commodities and securities and their volatility, changes in creditworthiness of counterparties, changes in the market liquidity, possibilities of huge market disturbances and potential crisis situations. In the process of managing counterparty credit risk in the context of derivative transactions, a pension fund should monitor credit risk with particular attention paid to both pre-settlement and settlement risks. Since the level of those two risks may be subject to frequent changes, they should be subject to regular monitoring performed by a pension fund [Resolution no. 134/2010].

Judging market experiences of numerous financial institutions, arguably ‘an orderly approach’ to counterparty risk is the best practical solution. This approach consists of three stages, including selection of counterparty, documentation, and management of security.

The first stage involves preliminary selection of counterparty. Thorough analyses of counterparty risk are made on the basis of a range of criteria including credit rating, credit spread and experience in trading an instrument (in other words a reasonable and active commercial portfolio) [Van der Hoek and Petit 2009]. After a potential counterparty is shortlisted, adequate documentation has to be made [Van der Hoek and Petit 2009]. While preparing a framework contract, help may be provided by recommendations made by International Swaps and Derivatives Association (ISDA) in this context. This is the second stage of the process. Having appropriate documentation is a key to success [Van der Hoek and Petit 2009].

After the documentation has been prepared and the transaction has been made, the last step is to undertake actions that aim at managing security. In practice, financial losses resulting from counterparty risk result almost always from inappropriate documentation and/or negligent management of security on the operational level [Van der Hoek and Petit 2009; Samborski 2015].

5. Political risks

Funded pension systems face political risks. In the literature, two groups of definitions describe political risk. The former refers to political risk understood as the state’s interference in business activities. The latter describes political risk with reference to events and limitations imposed on businesses [Grünenfelder 2013]. With reference to the pension system, political risk may be defined in narrow and broad terms. In the narrow understanding, political risk refers to ineffectiveness of

governance. However, in its broad understanding, political risk involves each action undertaken by governments that hurts interests of pension funds [Kay 2009].

One example of political risks is the use by governments of pensions to help solve government budgetary problems. For example, Ireland has levied a tax on pension assets in an attempt to deal with budgetary problems. The United States has raised the allowable discount rate that corporations can use to value defined benefit plan liabilities. Doing so reduces corporate pension contributions and thus increases corporate income tax payments. Government activities may involve nationalisation of a part or all assets owned by pension funds, a decrease in pension contributions or introduction of investment requirements aimed at realisation of social or political objectives, i.e. investments characterised by their low rates of return [Daykin 2002].

Funded pension systems that have replaced or partially replaced pay-as-you-go social security programs are particularly susceptible to political risks due to the need to continue paying for the unfunded pension liability, while at the same time contributing to the new pension. For example, Poland has cut back contributions to its funded pension system and nationalised the government bonds that were held in pension funds, replacing them with a credit for the unfunded social security plan. Russia has taken a similar step. Hungary and Argentina have completely ended their mandatory funded social security programs.

In the context of privatising a pension system, we distinguish four types of political risk: compulsory purchase risk (risk of expropriation), governance risk, default risk and inflation risk [Kay 2009]. Compulsory purchase risk is connected with a possibility of government taking over part or all assets owned by pension funds – usually to finance public spending. Compulsory purchase risk grows in the periods of economic turmoil or difficult situation of public finance. An example may be provided by Poland, where in 2014, half of pension savings held by private but compulsory open pension funds was taken over and transferred to the state-owned Social Insurance Institution (*Zakład Ubezpieczeń Społecznych*). This situation refers to financial assets that are invested in treasury bonds. As a result of this action, public debt was reduced (bonds were subject to redemption) and the Social Insurance Fund deficit decreased (pension saving in open pension funds is now voluntary) [Popiołek 2013]. Hence, it is possible to assume that taking over money of open pension funds was compulsory purchase that affected potential pensioners who lost their savings without any compensation.

However, representatives of the Government in Poland do not agree with the above thesis. According to them and experts they employed, financial assets saved in open pension funds are public property. They highlight that paying

contributions (including a part that is paid to Open Pension Funds) is compulsory and does not depend on the choice of the insured. Since the insured cannot freely decide about these assets, it is not reasonable to assume that these assets belong to the insured. As a result of such analysis, transfer of assets from open pension funds to Social Insurance Institution is not unlawful and incompatible with the Constitution as compulsory purchase without compensation. It is not possible to nationalise property that has been state-owned since the very beginning. In this approach, all assets accumulated in open pension funds are not subject to constitutional protection of private ownership [Ciążyński 2013].

However, the State Treasury Solicitors' Office, Polish Financial Supervision Authority and many other lawyers argue that contributions managed by open pension funds cannot be deemed public property. For instance, according to lawyers of the State Treasury Solicitors' Office, assets owned by pension funds are non-state property, which means that transferring the financial assets held by open pension funds on accounts of potential pensioners is a 'classical' example of compulsory purchase. As early as 2004, Eurostat concluded that since investment risk related to depositing assets held by open pension funds was borne by households, such assets held on funds' accounts could not be recognised as elements of public finance. Additionally, open pension funds – as private companies – cannot be classified as the public sector, as a result of which money held by them was not public (e.g., taxes and Social Insurance Institution contributions). The above would mean that all assets accumulated in open pension funds are not public levy and public property that is only temporarily managed by pension funds. Therefore, compulsory purchase did occur [Ciążyński 2013].

Another type of political risk is governance risk. Governance risk is the situation in which state institutions inappropriately supervise and regulate activities undertaken by pension funds. The level of governance risk depends on the effectiveness of supervision and regulation. Supervision and regulations have to involve both pension funds and the whole pension system, along with a policy of potential public support aimed at the system. Effective functioning of an individual account system requires adequate legal protections that address, inter alia, investment policies, supervision, and mutual relationships between stakeholders. Governance risk does not result only from inadequate legal solutions. It may also occur due to inadequate observance of already existing legal solutions [Kay 2009]. Regulations are, therefore, of much importance for functioning of private pension funds. Effective functioning of pension funds depends on regulatory effectiveness at the legislative and technical levels. At the legislative level, effectiveness is provided by Members of Parliament since it is the Parliament that takes legislative function. Regulation on the technical level means issuance of normative acts (decisions and decrees) on the basis of detailed instructions pro-

vided by acts in order to execute the acts. Technical regulations are undertaken by executive power (Government, President of the Polish Financial Supervision Authority or President of the national Bank of Poland) that ensures effectiveness of the regulatory process on the technical level [Šebo and Virdzek 2013].

A general level of governance risk in a given country derives from the effectiveness of the functioning of the whole state functions and all the state components. This effectiveness depends on numerous factors of institutional nature. Institutions that constitutionalise mutual relationships between executive, legislative and judiciary powers are of major importance. Governance risk is higher in the case of higher ineffectiveness in the institutional environment faced by business entities. In the context of pension insurance, governance risk is mainly observed in countries that have poor institutional and macroeconomic structures. Exposure of pension funds to governance risk is particularly visible in emerging economies of Latin America and in countries transforming their economies in Central and Eastern Europe. In these countries, political instability does not support elaboration of pension system reforms that could be implemented into economic reality and realised in at least one-generation perspective. Therefore, there is no continuation of already undertaken activities aiming at pension system reforms. Instead, workers have to deal with constant changes in pension system visions.

Another type of political risk is default risk. Default risk is the probability that a country will not meet its obligations resulting from its issued treasury debt securities that make up an important part of investment portfolios held by pension funds. Default risk derives from the state's financial standing. The poorer the financial standing in a state, the higher risk that the state will try to avoid repayment of previously made debts [Kay 2009]. Default risk also increases with an increase of treasury debt securities in the share of investment portfolios held by pension funds. Then, temptation not to meet obligations rises since the Government may in a relatively short period of time remarkably reduce statistics of public debt. An example of Poland may be given here again. An accounting trick that involves redemption of bonds that are held by open pension funds in their portfolios improved statistics of the Polish debt [Pawlak 2014]. As a result of the pension system reform, the national public debt was lowered by 11.4% at the end of the first quarter as compared to the end of 2013 [Cieślak-Wróblewska 2014]. One of the reasons of a very large share of state treasury debt securities in investment portfolios held by pension funds in Poland (over 50%) [Pawlak 2014a] was adoption at the very beginning of the pension system reform of the wrong assumption that the system of individual pension accounts of defined contributions would stimulate development of the capital market in the quantitative approach (e.g. capitalisation of the stock exchange) and in the qualitative one (a wide

range of financial instruments). The financial market in Poland, like in Chile and Argentina, suffered from insufficient diversification of debt instruments with investment rating and dominance of government securities [Kay 2009]. This situation happened because the financial system had not been prepared well enough to meet challenges posed by the pension system reform. The financial market was not directed towards support of the pension system of defined contribution plans. The financial market was not able to generate a permanent rate of return in the large scale. Moreover, pension funds were hardly allowed to invest abroad. Additionally, legal regulations imposed quantitative limitations on investments, insufficient accessibility of adequate investment projects, poor quality of market infrastructure, unbeneficial tax solutions or a low level of capital market liquidity. It is worth mentioning here that Polish reformers did not anticipate a massive wave of Polish labour related emigration that was observed when the European Union expanded into Central Europe [Samborski 2009].

Another component of political risk is the inflation risk. Sources of inflation should be looked for in monetary and fiscal policies implemented in a country (other sources include external shocks). Monetary and fiscal policies have political connotations [Kay 2009]. Money supply that each state influences determines the level of inflation. Inflation risk refers to real value of the investment rate of return and is related to probability that the purchasing power of money will decrease in the period of realising this investment [*Ryzyko inflacji* 2014]. Inflation risk is therefore the probability that purchasing power of financial means deposited in the pension fund will decrease. Emergence of inflation may result in the situation when after the impact of inflation has been taken into account, the real rate of return obtained by a pension fund will be much lower than the nominal one and the purchasing power of financial means deposited in the fund will be lower than at the time of investment [PZU 2012]. Increase in inflation may result in a decrease in the real rate of return for debt instruments held in the fund' investment portfolio. Moreover, the value of investments may drop as well. With an increase in inflation, it is more difficult for a fund member to protect the real value of accumulated capital [ING 2014]. For funded pension systems, inflation affects the value of assets and pension benefits. Periods of high inflation observed in any moment of professional activity of the insured (if assets are not fully indexed) or in the period of receiving a pension (if pensions are not fully indexed) may result in a sharp decrease in value of pension benefits. Some form of protecting real value of pension fund assets may be provided by investment in bonds that are inflation indexed [Kay 2009].

Therefore, pension funds are particularly exposed to political risk. This risk results from legal changes, regulatory requirements or changes in monetary and

fiscal policies. Political risk is therefore difficult to tame and resulting changes may be difficult to anticipate. Hence, effective management of political risk should involve monitoring directions of changes in the following spheres: politics, legislation and public finance. These changes may adversely affect the way pension funds function. Development of an early warning system may enable limitation of potential losses [Daykin 2002]. Help may be provided by valuation of a general level of political risk. This valuation is based on using less or more formalised models. At present, many models are used both in scientific research and for commercial purposes. Such models provide analytical indexes that focus groups of factors and that reflect stability of political and economic environment of a country. These indexes may be compared, thus providing a basis for formal ranking in the international context. Factors that determine a level of political risk may include the following: frequency of changing governments, changes in social forces in a state, external and internal conflicts, inflation, balance of payments, etc. [Ruchałowski 2014].

Conclusions

This paper expands the discussion of the financial risks that funded pensions bear by considering financial risks beyond the traditional financial market risks relating to rate of return volatility. In particular, it considers agency, counterparty, regulatory capture and political risks to funded pension plans. These risks affect the comparison of funded and unfunded approaches to providing retirement income. These risks cause pension funds to operate in a complex financial environment.

In spite of the fact that recently numerous legal solutions that regulate functioning of pension systems have been adopted to maximise interests of pension scheme members and beneficiaries, pension funds have to deal with the same governance related problems as modern corporations. A problem of agency is observed here with much higher intensity than for most corporations. A list of important issues covers pension plan members and beneficiaries (principals) who are not able to monitor activities undertaken by scheme administrators and trustees (agents); it is also possible to distinguish more than one principal (if we take into consideration scheme sponsors of DB schemes); there is a sophisticated network of agents (including investment managers) whose motivations and benefits are difficult to grasp and relate with principals' interests [Clark 2008]. Regulating principles of the way pension funds function and supervising them belong, therefore, to the group of complex issues. This complexity does not, however, result from the long term nature of pension contracts that refer to a large part of the society, but

also from a large number of different entities involved (pension funds, pension schemes, financial institutions, scheme sponsors, social party, etc.).

Complexity of interactions between regulators and representatives of the financial sector results in frequently appearing problems that distort effectiveness of the legislative process. This may be referred to as regulatory capture. This complexity is also due to by the complex nature of financial markets, their volatility, rapidity of ongoing processes and conflicts of interests. The last financial crisis shook stability of the whole financial system. A major reason for the rapidly developing financial crisis in 2008 turned out to be a complicated network of mutual interconnections and interdependencies in the financial market. As a result of a few spectacular business failures of financial institutions, a mechanism of transmitting counterparty risk in a short period of time resulted in systemic risk. Participants of the OTC derivative market including pension funds felt these turbulences particularly hard. Globalisation of financial markets supports geographical diversification of investments made by pension funds. Pension funds diversify their assets internationally and they try this way to use a phenomenon of non-synchronised aging of populations in developed and developing countries. As a result, they are exposed to counterparty risk and political risk. On the other hand, political and economic instability in many countries, result in more difficulties. Multitude of risks faced by pension funds and their members is a reason why it is increasingly difficult to manage the funds on the micro level. On the macro level, it is also increasingly difficult to regulate and supervise activities undertaken by pension funds.

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